ORGANIZATIONAL LEARNING AS AN ENABLER OF INTERNATIONAL MARITIME SECURITY COOPERATION

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Abstract

Successive U.S. National Security Strategies and annual military posture statements presented to Congress point to a worldwide security landscape that has become increasingly challenging and complex. As one of the ways to address those increasing complexities, U.S. policymakers and national security leaders have directed the military services to work more collaboratively with regional allies. As a result of the top-down strategic direction, countries across all regions have been training, exercising, integrating and operating together in ways that few would have predicted three decades ago. That collaboration has been especially evident among maritime services, both Navy and Coast Guard. As a result, the world’s waterways have remained relatively safe from conflict. The literature review presents evidence that organizational learning (OL) within the U.S. maritime services (both Navy and Coast Guard) and with partner countries is at least part of the reason for that success. The researcher conducted a qualitative study using Marsick’s and Watkins’ (1999) OL framework to explore: How do U.S. Navy and Coast Guard officers describe how they learn and work cooperatively with their foreign navy counterparts?

The study found that OL does enable maritime security cooperation between partner countries and that OL itself is enabled through collaborative activities, communicative activities, organizational elements, human relationships, technology, formal and informal training and education-related activities, and work practices. The findings suggest a rich array of launch points for future study in both theory and practice.

Key Words: maritime security cooperation, organizational learning
Chapter 1: Introduction

In the decades since the end of the Cold War, the worldwide security environment has become increasingly complex. Strategy documents produced by successive U.S. presidential administrations, as well as the annual military posture statements presented to Congress by the geographic combatant commanders, point to regional security landscapes increasingly challenged by failing and partially failing states, mass migrations, evolutions and morphing of terrorist groups and transnational criminal enterprises, and weapons of mass destruction (WMD) proliferation concerns. According to the U.S. Intelligence Community’s 2018 Worldwide Threat Assessment, “Competition among countries will increase in the coming year as major powers and regional aggressors exploit complex global trends while adjusting to new priorities in US foreign policy. The risk of interstate conflict, including among great powers, is higher than at any time since the end of the Cold War” (Coats, 2018, p. 4).

As one of the ways to address those complexities, U.S. policymakers and national security leaders have directed the military services to work more collaboratively with regional allies. Following the precedent set by previous administrations, the new National Security Strategy published by the White House in December 2017 emphasizes that the United States will “prioritize collaboration with aspiring partners that are aligned with U.S. interests. We will focus on development investments where we can have the most impact, where local reformers are committed to tackling their economic and political challenges” (The White House, 2017, p. 38). Supporting the National Security Strategy, the new National Defense Strategy published by the Secretary of Defense states that the U.S. will strengthen and evolve our alliances and partnerships in three ways: (a) Uphold a foundation of mutual respect, responsibility, priorities, and accountability; (b) Expand regional consultative mechanisms and collaborative planning;
and (c) Deepen interoperability (U.S. Department of Defense, 2018, p. 8-9). Other department and agency-level strategies have communicated similar direction from top to bottom in their organizations. Across all U.S. military services and in the strategy documents of civilian agencies such as the Federal Bureau of Investigation (FBI), the direction is consistent: establish and maintain partnerships with counterparts in partner countries. In the maritime domain specifically, the Chief of Naval Operations (CNO) published the *Cooperative Strategy for 21st Century Seapower* which emphasizes “naval forces are stronger when we operate jointly and together with allies and partners. Merging our individual capabilities and capacity produces a combined naval effect that is greater than the sum of its parts. By working together in formal and informal networks, we can address the threats to our mutual maritime security interests.” (Chief of Naval Operations, 2015, p. 2). The CNO’s direction is further cascaded through both the Navy and Coast Guard through strategy documents in the geographic combatant commands, in the numbered fleet commands, and in the lower command echelons.

As a result of the top-down strategic direction, countries across all regions have been training, exercising, and operating together in ways that few would have predicted three decades ago. The collaboration has been especially evident among maritime services, both Navy and Coast Guard. For example, in the U.S. Pacific Command (PACOM) area of responsibility (AOR), ten countries participated in the maritime security-focused Rim of the Pacific (RIMPAC) exercise in 2008, fourteen participated in 2010, and twenty-seven participated in 2017 (Olson, 2017). These days it is not uncommon to see counter-piracy task groups comprised of naval vessels from the U.S., France, Italy, Singapore, and Indonesia, and with a Malaysian commander in charge operating in the Gulf of Aden. The significant reduction in piracy in the Gulf of Aden and Horn of Africa since 2012 demonstrates that collaboration is successful (Kermeliotis, 2013).
Statement of the Problem and Research Questions

Thus, the good news is, despite the complexity of the global security climate, and the turmoil in many regions, the world’s waterways have remained relatively safe from conflict. The literature review in Chapter 2 presents evidence that organizational learning (OL) within the U.S. maritime services (both Navy and Coast Guard) and between partner countries is at least part of the reason for that success.

The overarching research question for this study is: How do U.S. Navy and Coast Guard officers describe how they learn and work cooperatively with their foreign navy counterparts? A supporting question is based on Marsick’s and Watkins’ (1999) OL model: How do officers describe how U.S. and partner county maritime organizations: create continuous learning opportunities; promote inquiry and dialogue; encourage collaboration and team learning; establish systems to capture and share learning; empower people toward a collective vision; connect the organization to its environment; and provide strategic leadership for learning?

Significance of the Study

Exploring the “how” behind successful maritime security partnering is worthy of exploration for two reasons. First, U.S. fleet commanders in the regions of the world will benefit from a deeper understanding of the OL elements that drive collaboration. Identifying those elements allows leadership to emphasize and appropriately support the activities that enable collaborative agility and provide coalition forces with competitive advantage, ultimately helping to sustain and improve regional and global maritime security. Second, the insights gleaned from the study will be useful to leaders in other U.S. and partner country military services,
government agencies, non-governmental organizations (NGOs), and other organizations seeking to improve collaborative agility and thereby contribute to a more secure world.

**Theoretical Framework**

The study uses Marsick’s and Watkins’ (1999) OL model as a theoretical framework. According to Marsick and Watkins, an effective learning organization learns continuously and transforms itself through seven action imperatives. The study explores how each of Marsick’s and Watkins’ seven imperatives enable security cooperation between partner country navies and coast guards. For the purpose of readability, and in accordance with dissertations and articles by previous researchers, this study uses the abbreviation (OL) for organizational learning. The researcher also identified two-letter abbreviations for each of Marsick’s and Watkins’ (1999) seven imperatives as described below.

Watkins and Marsick drew their initial ideas regarding experiential learning from Dewey (1938), the social context of learning from Lewin and Lewin (1948), and framing and reflection from Schon (1983). They began to form their theory that OL is continuous and embedded within work, and that structures can be created to enhance the capacity of that learning. They incorporated action science concepts from Argyris and Schon (1978, 1996) and (Argyris, Putnam, & Smith, 1985) and action reflection learning concepts from Revans (1980, 1982). Watkins and Marsick’s first book *Sculpting the learning organization: Lessons in the Art and Science of Systemic Change* (1993) identified their first six action imperatives critical for building an organization’s capacity to learn and change. In a follow-on book *Facilitating Learning Organizations: Making Learning Count* (Marsick and Watkins, 1999), they introduced
the *Dimensions of the Learning Organization Questionnaire (DLOQ)* as a data collection instrument for quantitative studies and added the final seventh imperative.

The seven learning imperatives, in detail, are:

1. **Create continuous learning opportunities (CL):** Learning is embedded within work so people can learn on the job; opportunities are provided for ongoing education and growth.

2. **Promote inquiry and dialogue (ID):** People express their views, listen to, and inquire into the views of others; questioning, feedback, and experimentation are supported.

3. **Encourage collaboration and team learning (CT):** Work is designed to encourage groups to access different modes of thinking, groups learn and work together, and collaboration is valued and rewarded.

4. **Establish systems to capture and share learning (LS):** Both high- and low-technology systems to share learning are created and integrated with work, access is provided, and systems are maintained.

5. **Empower people toward a collective vision (EM):** People are involved in setting, owning, and implementing joint visions; responsibility is distributed close to decision making so people are motivated to learn what they are held accountable for.

6. **Connect the organization to its environment (EN):** People are encouraged to see the impact of their work on the entire enterprise, to think systemically; people scan the environment and use information to adjust work practices; and the organization is linked to its community.
7. **Provide strategic leadership for learning (SL)**: Leaders model, champion, and support learning; leadership uses learning strategically for business results (Marsick and Watkins, 1999).

By focusing on the seven imperatives an organization can produce a positive effect in a four-stage process: (a) Create systems-level continuous learning, which (b) creates and manages knowledge outcomes, which (c) leads to organizational performance improvement, which (d) can be measured through both financial and non-financial measures (Watkins and Marsick, 1999, p. 10-11).

The seven imperatives’ ability to positively impact OL was validated in a follow-on study by Yang, Watkins and Marsick (2004). According to Marsick (2013), as of 2013, there have been 173 requests to use the DLOQ for research in 38 countries, primarily in the United States (63 requests), Europe (35 requests), Africa and the Middle East (27 requests), and Asia (24 requests), and the DLOQ has been used for at least 26 published studies. The DLOQ helps identify the level and scope of OL within an organization so that leaders can identify opportunities for improvement, and ultimately increase the organization’s agility and competitiveness.

To understand how Marsick and Watkins are positioned within the body of OL research, one must first understand OL as having two distinct but often intertwining research trajectories. The original OL research trajectory (Research Trajectory 1 below) includes scholars who have sought to understand the processes by which learning occurs within organizations. Some of those scholars have a greater focus on internal learning, while others have focused more on open systems theory and how an organization is affected by, and affects, its external environment. A second body of scholars (Research Trajectory 2 below) have sought to develop normative
models that can help organizations become more agile by building organizational learning capabilities within their organizations. With the exception of this chapter, this study uses the term OL as the parent theory for both research trajectories.

**Research Trajectory 1**

Crossan, Lane and White (1999) traced OL to Cangelosi and Dill (1965) who suggested organizations learn through a series of adaptations at both the individual level and group level within an organization, and ultimately across the organization as a whole. Argyris (1977) and Argyris and Schon (1978) defined OL as a process by which individuals within an organization detect errors and anomalies, and then take corrective actions which eventually become embedded in the maps and images of the organization. Fiol and Lyles (1985) suggested a more simplified process in which members of an organization develop insights, knowledge and associations based on past actions and the effectiveness of those actions, and develop new actions based on past effectiveness. March (1991) broke new ground in OL by focusing on how organizations balance the need to exploit what they have currently developed with the need to explore what must be developed in response to changes in their operating environment. If an organization focuses too heavily on explorative OL to develop new products and services, it runs the risk of not being able to absorb, operationalize and earn value from new learnings. Likewise, if the organization focuses too heavily on exploitive OL to refine what it has created, the organization risks missing the discovery of breakthrough opportunities that can deliver exponential growth in revenues and market share.

Hurst, Rush, and White (1989), described OL as a means of strategic renewal in an organization. Schwandt (1997) described OL as a system of actions, actors, symbols and
processes that allows an organization to transform information into knowledge that enables its adaptive ability. Vera and Crossan (2003) argued that OL is the process of changes in thought and action which happens in an individual, is shared, and becomes embedded in the organization. Antonacopolou and Chiva (2007) saw OL as derived from the multiplicity of connections of practitioners and a constant evolution of learning practices between those practitioners. Madsen and Desai (2010) believed OL to be a modification of an organization’s knowledge. Argote and Miron-Spektor (2011) defined OL as a change that occurs as an organization acquires experience.

**Research Trajectory 2**

Second trajectory scholars place less emphasis on defining and understanding how OL flows into, out of, and through an organization, and more emphasis on understanding the attributes of effective learning organizations so that those attributes can be reinforced, extended or emulated. Senge (1990) argued that a learning organization continuously expands its capabilities to create its future through five disciplines: personal mastery, mental models, building shared vision, team learning and systems thinking. Nevis, DiBella and Gould (1995) expanded on Senge’s model and identified ten facilitating factors of the learning organization: scanning imperative; performance gap; concern for measurement; experimental mindset; climate of openness; continuous education; operational variety; multiple advocates; involved leadership; and systems perspective. Similar to Senge’s definition, Marsick’s and Watkins’ (1999) argued that an effective learning organization learns continuously and transforms itself through seven action imperatives: creating continuous learning opportunities; promoting inquiry and dialogue; encouraging collaboration and team learning; establishing systems to capture and share learning, empowering people toward a collective vision; connecting the organization to its environment;
and strategic leadership for learning. Goh and Richards (1997) suggested five learning
organization characteristics that partially overlapped Senge’s five disciplines, but with greater
emphasis on experimentation, rewards and knowledge transfer. According to Pedler, Burgoyne
and Boydell (1997), a learning organization facilitates learning of all of its members and
continuously transforms to achieve its strategic goals, and ultimately identified 11 learning
organization characteristics. Like Senge, Chiva, Alegre and Lapiedra (2007) suggested five
dimensions: experimentation; risk taking; interaction with the external environment; dialogue;
and participative decision making. More recently, Marquardt (2011) posited that a learning
organization possesses the ability to continuously adapt, renew, and revitalize itself in response
to its changing external environment, based on 21 variables grouped in five dimensions: people;
knowledge; organization; technology and learning.

**Why Watkins and Marsick?**

For this study, the researcher sought a theoretical framework that would provide a
tangible set of OL attributes, characteristics or imperatives that could be recognized, named and
most importantly reinforced and resourced by Navy and Coast Guard leadership. Before
selecting Marsick’s and Watkins’ (1999) framework, the researcher used his personal knowledge
and experience as a naval officer to compare the applicability of each OL framework to maritime
security activities between partner countries. Each framework has benefits and drawbacks. For
example, Marquardt’s (2011) framework includes customer, supplier and vendor elements that
might be useful in looking at coalition maritime organizations as analogous to an enterprise
business model. However, Marquardt has other elements (e.g., analysis and mining) that are
more useful for companies seeking market advantage through customer data and analytics.
The researcher selected Marsick’s and Watkins’ framework for three reasons. First, based on the literature review of OL in the worldwide military environment (See Chapter 4), plus the researcher’s own experience as a practitioner in the organizations being studied, Marsick’s and Watkins’ framework was the most “natural” fit. In other words, if one conducts even a cursory review of any U.S. or partner country military organization or operation, Marsick’s and Watkins’ imperatives are generally visible. Second, following this dissertation study, if the researcher opts to conduct follow-on quantitative validation studies within geographies, service elements, demographics, etc., as recommended by Yin (2009), Marsick’s and Watkins’ DLOQ provides an instrument to do so. Third, Marsick’s and Watkins’ study aligns with and was informed by Senge’s (1990) five disciplines of systems thinking, team learning, shared vision, mental models, and personal mastery. A significant percentage of the target audience for this study has been exposed to Senge through senior military staff colleges such as the Naval War College, National Defense University and National Intelligence University and during graduate studies. The target audience’s view of Senge as a proven model in the business environment will be helpful in “selling” the findings of the study to Navy and Coast Guard leadership.
Chapter 2: Literature Review

The literature makes clear that, while OL elements may be missing here and there, U.S. military services are learning organizations. The same is generally true regarding the U.S.’s western coalition partners. And, a good number of the U.S.’s non-western and developing country partners exhibit strong OL elements as well. In fact, the most important learning from this literature review might be that OL has not been shown to be a bad fit for any military organization that has been studied to date. Thus, the question is not whether a military organization can or cannot become a learning organization. Rather, the question is what kind of a learning organization can it be? This literature explores OL in military organizations across four dimensions: (a) OL in the U.S. Military; (b) OL Through Military Failure; (c) OL in Other Western Military Organizations; (d) OL in Non-Western and Developing Country Military Organizations; (e) OL by U.S. Adversaries.

OL in the U.S. Military and Intelligence Community

OL was a hot topic throughout the 1990s. Organizations large, small, and across all industries, jumped on the OL bandwagon. In many cases, previous flavors of the day such as Total Quality Management (TQM) and continuous improvement (CI) were re-branded as OL initiatives. Government agencies and military services were no exception. Every U.S. military service, and nearly every government agency claims or has claimed to be a learning organization or a learning organization under development. However, a careful literature review will find dozens of studies of supposed OL in government and military organizations that are not genuinely focused on OL at all. Add in the number of OL-related articles in non-peer-reviewed journals, and the number is more likely in the hundreds. Salopek’s (2004) study of OL at the Defense Acquisition University (DAU) is one such example. While DAU’s transformation
initiative was called OL, the emphasis was largely on individual learning, and a transformation from a traditional training organization to a corporate university-like environment. Such articles are not grounded in any of the theoretical frameworks of the seminal thought leaders. They often include only the author’s or the organization’s own definition of OL, and do not include many of the critical components that seminal thought leaders would argue are OL imperatives. This literature review has excluded the majority of those studies.

A seminal study on OL in the modern military is Nagl's (2002) study of lessons learned from counterinsurgency operations (COIN) by the British military in Malaya and the U.S. military in Vietnam. Nagl argued that British forces prevailed in Malaya because they were successful with OL. U.S. forces did not prevail in Vietnam, because they did not sufficiently embrace OL. As explained above, a key challenge with Nagl’s study is that he grounded his research around five key questions that only partially included the elements that most OL thought leaders believe should be present in a genuine learning organization. Nagl’s model specifically asks: (1) Does the organization promote suggestions from the field? (2) Are subordinates encouraged to question superiors and policies? (3) Does the organization regularly question its assumptions? (4) Does leadership solicit suggestions from the ground level troops? (5) Are standard operating procedures generated locally, or imposed from the top? The model only slightly touches on concepts of individual and group reflexivity, double-loop learning and other elements that scholars such as Senge (1990), Argyrus (1977) and others would describe as OL imperatives. Nagl largely drew his OL criteria from non-OL focused scholars, including Sullivan and Harper (1997) and Downie (1998). Hasik (2013) conducted an extensive literature review regarding OL and COIN and found that, while scholars have conducted dozens of studies around COIN lessons learned and speed of learning, there have essentially been no in-depth
investigations of COIN operations through the lens of genuine OL as it has been defined by OL thought leaders.

Surprisingly, the story is similar in the intelligence community (IC), an environment where OL would presumably be highly ingrained in the culture. There have certainly been IC leaders in recent years who have promoted OL-type themes. For example, Nicander (2011) describes former Director of National Intelligence John Negroponte’s six principles for creating a more unified and innovative IC. Negroponte argued that the IC must become more results-oriented, collaborative, future-oriented, self-evaluating, and innovative. Negroponte’s vision touched on OL principles, and especially the self-evaluating imperative. However, again, elements such as reflexivity and double loop learning are conspicuously missing. Nicander also argues that such studies thus far have focused too much on change, and not enough on innovation.

Yet, if Nagl had not focused his analysis on only two military conflicts, and if Nicander looked a little deeper into the various agencies, they both would likely have seen significantly more OL at play in today’s modern military and intelligence organizations, sometimes purposely implemented, and sometimes organically developed. For example, Baird, Holland and Deacon (1997, 1999), and Darling and Parry (2001) studied how the U.S. Army uses a method called After-Action Reviews (AAR), a continuous learning process comprised of four steps that are completed at the end of an operation: (1) reviewing operational intentions, (2) analyzing actions and consequences, (3) capturing lessons learned and implications for future actions, and (4) applying the lessons learned. AAR was developed by the Army’s Center for Army Lessons Learned (CALL). CALL was created in 1985 with an initial mandate to collect operational lessons learned that could be incorporated in Army training programs. In 1992, CALL’s role was
expanded to explore the impact of virtual reality, simulation technologies and other technology innovations on Army operations, equipment, and command structure. Throughout the 1990s and beyond, CALL’s scope continued to expand to observation and learning from current combat and other field operations. CALL’s impact on Army OL has been studied by Margaret and Wheatley (1994), Gerras (2002), Williams (2007), and DiBella (2010). The common finding is that an organization like the Army must evolve in stages to become a learning organization. For that to happen, it needs centers of excellence or centers of influence such as the CALL organization to work as enablers of change, and over time, to inject OL principles and methods into the day-to-day routines. DiBella (2010) stressed that a learning organization can generated through the strategic actions of the organization’s leaders. However, the progression occurs through a series of stages, sometimes evolutionary and sometimes revolutionary. DiBella also emphasizes that the OL characteristics of a start-up organization will differ from those of a well-established organization working in a stable environment. As an example, DiBella points to U.S. Africa Command as having potential for more revolutionary OL because it is a new organizational entity within the Defense Department.

In the Navy, Duffek and Harding (1993) studied how Naval Air Systems Command set up its OL-based quality management program structure. NAVAIR had an Executive Steering Committee (ESC) to provide executive-level policy guidance. Quality Management Boards commissioned, guided, helped implement and supported improvement initiatives. Tactical process action teams (PATS) were responsible for process solution design, implementation and assessment. The new program structure helped the Geophysics Directorate determine the best way to reduce their inordinate number of existing funding accounts, and to create a new mechanism for cost allocation. Without the OL-based quality management structural overlay, the
organization would not have been able to plan and execute such a transformative change. March (1991) would argue that the OL overlay allowed the organization to transition from a purely exploitative OL capability to a better balance of exploitative and exploratory OL.

Zacharakis and Van Der Werff (2012) studied four U.S. military institutions that educate intermediate and senior-level officers, including the Air Force’s Air University, the Industrial College of the Armed Forces, the Marine Corps University, and the Naval War College. Their findings suggest that the U.S. military does understand the importance of creating what Senge (1990) describes as learning communities and working to ensure that double-loop learning (Argyris, 1977) is ingrained in the organizational culture and norms. Zacharakis and Van Der Werff (2012) believe the military services can continue to evolve OL by emphasizing critical thinking skills at the senior military education institutions. Similarly, Vendergriff (2006) emphasizes the enculturation of OL principles amongst the organization’s junior-most leaders. For example, in the Hoya Reserve Officer Training Corps (ROTC) Battalion at Georgetown University, cadets use a Tactical Decision Game to develop intuitive decision-making and, in the spirit of Argyris (1977), to discern the difference between what they are thinking and how they are thinking. One good Navy example of how these educational principles are practiced in the field is the shipboard “hot wash” that usually occurs at the end of every exercise or drill. Naval officers and crew not only reflect on what they learned in the event, but also what they learned about how they learn.

Hinks, Alexander and Dunlop (2007) studied speed of learning as an OL metric and suggested that speed of military learning determines how well-equipped the organization is when facing combat surprises. Manigart (2003) suggests military organizations learn and transform during combat and crisis situations through the use of fluid organizational constructs such as
virtual organizational structures and matrix structures. A good example is the post-World War II regional combatant command structure that provides an integrative umbrella across all services in a particular geographic area. In fact, this paper focuses specifically on such an organizational construct: the U.S. regional maritime component command, which is always a part of a larger geographic component command (e.g., U.S. Central Command, U.S. Africa Command, U.S. Pacific Command, etc.). The geographic combatant command concept was developed based on lessons learned regarding joint service interoperability. Similarly, when the Navy creates a new task force or task group to address a particular operational need (e.g., Combined Task Force 151 to combat piracy in the Gulf of Aden), that is also an example of Manigart’s (2003) organizational fluidity. When the Air Force creates a new air expeditionary wing to meet a specific operational requirement (e.g., the 379th Air Expeditionary Wing in Qatar to support concurrent combat operations in Iraq and Afghanistan) that too is an example of organizational fluidity.

Similar organizational fluidity occurs at the topmost levels of our government. U.S. presidents have regularly adjusted the organizational structures of the National Security Council, the Joint Chiefs of Staff, and the White House national security team to meet evolving national security challenges. Ponder (1999) examined the White House as a learning organization through a case study of the Carter administration’s development of a comprehensive energy plan. The study presented evidence that the White House demonstrated OL capabilities as it evolved its policymaking approach from the earliest months of the administration to the later months. Ponder analyzed White House behaviors based on Mahler's (1996) OL criteria. He determined policymakers had perceived problems with their approach, reflected on the nature of the
problem, changed their mode of policymaking, and institutionalized new approaches as they pursued various policy changes.

In summary, a wealth of studies suggest OL is alive and thriving in the U.S. military from the most tactical to the most strategic national security levels. U.S. forces’ adoption of COIN, the Army’s AAR and CALL mechanisms, NAVAIR’s OL-based Quality Management Program, the Navy’s hot wash and Manigart’s (2003) fluid organizational structures area all examples of OL in the U.S. military. This is good news for the regional maritime component commander because it provides a starting point for improving security cooperation through OL. For example, if a maritime component command opts to create a maritime focused lessons-learned center, all parties would likely recognize that center as something akin to the Army’s highly successful and highly regarded CALL described above. Along with structural solutions like the CALL, the maritime component commander would also be able to build on a multitude of less formalized, but equally powerful OL mechanisms already in practice in the Navy. Naval exercises are one example. The very purpose of a Naval exercise, whether it is a navigational exercise, gunnery exercise, damage control exercise, etc., is to practice and test what has been trained, review and understand the results, and identify, communicate and implement those lessons learned. Navy war games are conducted with similar objectives, and the organization has dedicated staff, facilities (Naval War College) and empirical and repeatable methods for conducting those games. Every Navy exercise, war game and real-world operation typically ends with a “hot wash” review of lessons learned. Plus, the Navy already has dedicated information technology platforms such as Navy Knowledge Online (NKO) to capture and share organization-wide best practices. In other words, Argyris’s (1977) single loop is already a daily phenomenon in naval operations. While double-loop learning is not practiced as regularly as single loop, it is often
Either way, a strong pre-existing single loop process provides a starting point for the maritime component commander to add the double learning loop.

**OL Through Operational Failure**

The most important lessons learned in all organizations, both in the private sector and in government, may take place in times of crisis. In the private sector, organizations such as Chrysler and IBM endured market crises, learned from their mistakes, recovered and thrived. Some organizations such as Polaroid and Digital Equipment Corporation did not. Military organizations are no exception. Multiple scholars have studied how U.S. and other military organizations have learned through operational failures and partial failures. To study how the U.S. Army behaved as a learning organization during the Vietnam conflict, Daddis (2013) examined the organization’s strategic approach, operational experiences, and organizational changes through the duration of the conflict. He determined that the Army did meet the criteria of a learning organization. However, the learning was not sufficient for success in the conflict. For Daddis, the situation is similar to OL in the for-profit world. Oftentimes, OL alone cannot provide sufficient performance improvement for the organization to be successful in the market because other variables are present that mitigate the impact of OL. In the case of Vietnam, OL success was mitigated or minimized by the variable of a concurrent nationalist revolution.

Etzioni (2015) studied the U.S. military as a learning organization in Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF). In the wake of multiple low intensity conflicts in the years following the Vietnam War, U.S. forces drew on lessons learned from the British military’s counterinsurgency (COIN) campaign in Malaya between 1948 and 1960. The U.S. turned to COIN doctrine because they believed it to be the best strategy for stabilizing both Iraq and Afghanistan. Etzioni’s study shows that U.S. forces learned only some of the lessons that
needed to be learned from the British. Most importantly, they failed to consider the sociological conditions that make nation-building successful in a post-conflict environment. For Etzioni, the missing ingredient was the seventh item on Marsick and Watkins (1999) Dimensions of the Learning Organization Questionnaire (DLOQ). OL was not emphasized as an imperative by policymakers and military leadership. Etzioni suggests COIN would have been more successful if leadership had: (a) emphasized the strategy as experimental, (b) solicited more rhythmic feedback from the troops on the ground, and (c) had more mechanisms in place to incorporate recommendations for change.

Ellis (2007) conducted a general study of modern warfare, and suggested OL as the new and only form of competitive advantage amongst adversaries. Ellis defined OL in a military organization as the ability to understand, revise, or reverse expectations about what works and what does not work, and to do so more rapidly than one's opponent. As suggested by McKitrick (1995), Cohen (1996) and multiple other military scholars, strategic advantage in combat operations is about being able to recognize and exploit windows of opportunity before an adversary can recognize and protect themselves or apply mitigating strategies against their vulnerabilities. Ellis’s research shows that as technology proliferates across the warfare domains, those windows of opportunity become less predictable yet offer greater competitive leverage. Ellis then examined how OL dominance in warfare might be enabled through learning acceleration techniques centered on data collection, knowledge collection, analysis, and dissemination. Most importantly, Ellis recommends reflexive techniques that enable a military organization to reflect, envision and implement tactics that might impair an adversary’s ability to learn, protect, and mitigate.
Kollars (2014) argues that OL has been a key component, not necessarily in the development of high tech warfare components such as unmanned aircraft and robotics, but rather in the less exciting domain of field modifications. Kollars studied the U.S. military’s development of the Rhino Convoy Protection Device. As casualties from improvised explosive devices (IEDs) in Iraq and Afghanistan escalated through 2003, the soldiers in the convoys were the ones who were most incentivized to address the problem. As a result, solutions evolved from the ground troops upwards, rather than from the Pentagon downwards. Soldiers began crafting homemade electronic devices in the field and mounting those devices on poles attached to the front of their Humvees. The devices were constructed from kitchen toasters and other household electrical appliances. The homemade device would activate the IED in front of the Humvee, rather than under the Humvee, helping to minimize casualties. By 2006, the OL-developed solution had become the inspiration for a factory-produced Rhino device. Kollars (2014) describes a dichotomy between one group (ground troops) using agility and OL to fight the war at hand, and another (the Pentagon) providing the consistency (bureaucracy) that enables the organization’s ability to fight over the long term. The bureaucratic nature of one brings out the OL nature of the other. The same situation likely plays out in most organizations, yet the threat to human life underscores the phenomenon in the military environment. It is the existential threat that helps an organization that would otherwise be heavily tilted towards exploitation-based OL (March, 1991) to be also adept at exploration-based OL. However, it is the organization’s exploitative learning ability that enables a new invention such as the Rhino Convoy Protection Device to be quickly and widely disseminated across the organization.

History is filled with failed and partially-failed military operations. In some cases, the failures were unquestionable. The Battle of Tsushima in 1908 is a good example. After Japan
annihilated nearly the entire Russian fleet in a single battle, no other country ever again risked their entire fleet in such a way – a case of OL on what naval strategists would call a “grand strategy” scale. In other cases, the failures were partial or temporary. Counter-piracy operations in the Gulf of Aden and Horn of Africa are a good example. Throughout the early 2000s, commercial shipping companies and western navies were losing a war against the Somalian pirates. As shipping lines tried new tactics to counter the threat, the pirates learned new tactics. For example, as ships began to transit further from shore, pirates began operating mother ships to extend their own range offshore (Efforts to Combat Piracy, 2013). Western navies increased the number of patrols, yet the number of commercial ships captured and crewmembers taken hostage began to increase. Piracy incidents doubled from 86 to 181 from 2008 to 2009 (Efforts to Combat Piracy, 2013), and western coalition forces were clearly losing the war on piracy. Yet, in the end, operational failure was the driver of OL within coalition forces. Through a combination of structured patrol sector assignments, collaboration with the shipping companies to develop a set of Best Management Practices (BMP), and the establishment of an Internationally Recommended Transit Corridor (IRTC) through the Gulf of Aden, piracy incidents were dramatically reduced through 2012. The lesson learned for a regional maritime component commander is that operational failure does drive OL, and OL can assist in turning around a failing or degrading regional maritime security environment.

Lessons learned in the Vietnam conflict, Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF), counter-piracy operations in the Horn of Africa and Gulf of Aden, and the Rhino Convoy Protection Device are all examples of OL as a result of military tactical and operational failures. The key takeaway for the regional maritime component commander is that the old adage
that necessity is the mother of invention is true, and the most degraded security environments are likely to yield the most innovative solutions.

**OL in Other Western Military Organizations**

Not surprisingly, history has shown that the U.S. military’s most effective security partnerships are with other western military organizations. U.S. forces won two world wars in concert with western allies, and those same allies have been key collaborators in the fight against communism, al-Qaeda, ISIS, the Latin American drug cartels, and Somalian pirates. Thus, not surprisingly, OL is alive and well within the military organizations of our western allies. In an historical survey of military training and decision-making, Vandergriff (2006) identified specific elements of OL in western militaries as far back as 1806 when Gerhard Scharnhorst sought to reform the Prussian army after the disaster of the battle of Jena. OL has also been a key component in wargaming since the late nineteenth century, since it has always included reflexive elements where participants not only ask what was learned, but also what was learned about the learning process. In fact, in the wargaming community, Argyris’s (1977) double loop is sometimes called wargaming the wargame.

Foley (2014) examined how the British and German armies functioned as learning organizations during the First World War. The study points to Senge’s (1990) generative and adaptive types of OL, and suggests that they roughly correspond to the concepts of innovation and adaptation used by military historians. Foley also frames the argument around March’s (1991) theory of explorative OL versus exploitative OL, although he incorrectly attributes the theory to Farrell (2010). The findings suggest that organizational cultures of the opposing armies shaped the nature of OL within those armies. The British army tended to rely more on innovative technology-based solutions to solve battle problems. The German army tended to rely more on
incremental and tactical solutions. Foley believes the difference between the two emphases was driven by the fact that the British Army relied more on informal OL, while the German Army relied more on formal learning activities.

The original British Expeditionary Force (BEF) deployed to the Western Front was well trained and experienced. However, in combat operations between August and November 1914, the BEF lost more than 86,000 soldiers and 3,627 officers, and a considerable percentage of its institutional knowledge. The British army had 11,000 officers on active duty, and 13,000 on the reserve lists, and most were poorly trained. British officers were traditionally amateurs who served for a period of years when conflicts arose, bringing knowledge from the outside into the organization. In contrast, the German officer corps totaled 120,000 mobilized, plus Reserves. German officers were professional career officers whose professional experiences were almost entirely within the military. The German army’s history of structured organizational questioning and learning led to incremental changes (March’s exploitation) that could be learned on a larger scale. A highly structured and extensive reporting system allowed trends in adaptation to be discerned, combined, improved and exploited.

Looking at the situation through March’s (1991) lens, the long-term continuous but incremental improvement of the German trench warfare system is an example of exploitation-based OL. In contrast, the BEF, lacking the same internal infrastructure of the German army, relied on a much more fluid exchange of ideas with the external private-sector, enabling the development (exploration-based OL) of technologies that provided competitive advantage. The BEF’s exploration-based OL advantage enabled the development of the Stokes mortar, aircraft radios, microphones for sound ranging of enemy artillery, and most importantly the battlefield tank.
In the more modern era, Gode and Barbaroux (2012) conducted a qualitative study on how the French Air Force benefits from OL. The researchers interviewed twelve experienced aircrews comprised of both pilots and navigators, and reviewed NATO policy documents and debriefing guidelines. Focusing on how aircrews carry out their daily operational debriefing sessions, researchers observed that OL depends on the capacity of the learning agents to combine both individual and collective progress in a dialogue. One significant finding was that aircrew focus on error detection and correction is based on a highly internalized mode of analysis. Aviators observe the errors of others and use that information to help correct their own performance. Aircrews then have reflexive conversation to find appropriate remedies, and to voice accountability for their own mistakes. Every participant is involved in a deep and constructive post-flight review. The post-flight review is highly data-based and relies on flight data recording and analysis technologies.

Gode and Barbaroux (2012) emphasize that the OL achieved through aircrew debriefing has elements of Argyris and Schon’s (1978) single-loop reflection (what an organization or team has learned) and double-loop reflection (what has been learned about how we have learned), and March’s (1991) concepts of exploitation-based and exploration-based OL. The debriefings rely on three OL mechanisms: (1) learning from experimentation and corrections from personal trial and error; (2) learning from other team members in the form of sharing of expertise, articulating contingent judgments, observations of behaviors, actions and attitudes, and learning by imitation; and (3) learning from failures and deviations from expected, planned or desired outcomes, both large and small, that generate essential lessons learned and trigger the development of organizational adaptations.
Di Schiena, Letens, Van Aken and Farris (2013) explored OL characteristics of leadership styles used by Belgian military leaders. They developed and tested hypotheses that higher learning organization characteristics would be associated with a more transformational style of leadership that inspires followers. To ground the study, the researchers used five learning organization characteristics defined by Senge (1990), which include systems thinking, team learning, shared vision, mental models, and personal mastery. They combined Senge’s principles with leadership styles defined by Bass and Avolio’s (1997) multifactor leadership model, which includes transformational, transactional, and passive-avoidant styles. The correlations showed OL characteristics were highly related to both transformational and transactional leadership, and unrelated to passive-avoidant leadership. Not surprisingly, the population had higher degrees of transactional leadership than they did transformational leadership. Yet the five dimensions of transformational leadership most important for fostering OL were proven present, including idealized influence and individualized consideration.

Charters (2012) studied OL in Canadian military intelligence during the conflict in Afghanistan, and grounded his analysis in Farrell and Terriff’s (2002) theory of three key paths to organizational change: (a) innovation, creation and adoption of things entirely new; (b) adaptation and adjustment of existing means and methods; and (c) emulation and imitation of what others do. Charters also relied on a set of OL-related organizational characteristics suggested by Leonard (2011): (a) flat organizational structures with fewer middle managers; (b) autonomous process-oriented, rather than task-oriented teams; (c) elimination of pre-defined routines; (d) information sharing; (e) adaptive culture that encourages questioning, risk-taking, and innovation; (f) systematic approaches to problem solving, experimentation, learning from
past experiences, and learning from others; and (g) mechanisms to transfer information quickly and efficiently throughout the organization.

Charters’ study found that Canadian military intelligence did fit the criteria of a learning organization, though not exactly as Leonard (2011) envisioned. He points to multiple capabilities such as staff colleges, professional development sessions, exercises and mission-specific training that help to offset the OL limitations imposed by the organization’s hierarchical military structure. Most importantly, Charters emphasizes that, by its very nature, an intelligence organization takes a systematic approach to problem solving, learning from past experience, and learning from others. Canadian military intelligence is no exception. One reason is that the organization has its own knowledge-sharing outlets, including the Intelligence Branch Association Journal, and a cadre of long-serving “knowledge individuals”’ who maintain historical institutional memories as they participate in multiple conflicts across many years.

Demchak (1995) studied the Israeli, German and British militaries to understand the impact of new technology on OL. The study found that the speed of modern technological change has an impact on the way military organizations learn and adapt. At the leadership level, capability and cost expectations cause members to learn new behaviors of imitative rationality that they impose on the rest of the organization. At the lower levels of the organization, adaptive rationality creates pressures for more controls, making members more likely to adapt to leadership’s imitative behaviors. Demchak calls this adaptive rationality. The changes go largely unnoticed by the members of the organization, and members at all levels become less able to predict the outcomes of decisions involving new technology. The long-term result is declining control over OL. The increased knowledge burdens of the new technology cause burdens at the tactical levels. Rather than implementing OL mechanisms to help those at the lower levels cope
with the change, leadership instead tends to react by centralizing decision-making. Over time the organization’s ability to learn through trial and error becomes degraded as more control mechanisms are imposed from the top. Demchak began the study by researching the introduction of the U.S. M-1 Abrams tank, and then validated his findings with case studies of the Israeli Merkava tank, Germany’s Leopard II tank, and the U.K.’s Challenger II tank. One example of OL degradation identified by the study was the Israeli Defense Force’s creation of small tank maintenance groups located in second echelon workshops behind frontline forces. While the maintenance groups helped keep the new high-tech tanks operational, the unintended ripple effect was that the tank operators’ own ability to troubleshoot and learn how to repair their own equipment in battlefield conditions was degraded. There is a comparable phenomenon in civilian society. Because new automobiles are significantly more sophisticated than in decades past, automobile owners are less likely to troubleshoot and learn how to repair their own vehicles. The result is learning degradation, and millions of incredulous dads who just can’t understand why Sonny isn’t good with a wrench.

Coticchia and Moro (2016) studied the Italian military to understand how military change takes place in states that do not have the significant material capabilities to develop autonomous solutions. This example is especially relevant for this study in that, while Italy is a Western country with a sizeable economy, it has limited military resources when compared with the U.S., France and the U.K. Nonetheless, Italy has been able to achieve significant developments in military capability since 2001. Coticchia and Moro’s analysis is grounded in Greve’s (2005) theory of inter-organizational learning. According to Greve, four variables significantly impact intra-organizational learning: (a) The “infectiousness” of an innovation, its availability to others, and its reputation as a success within the organization it was originally innovated; (b) social
proximity and the pre-existing social ties that create trust between organizations; (c) motivation to learn, which is often driven by an acknowledgement of current poor performance; and (d) an organization’s ability to absorb knowledge from the outside environment through formal and informal cognitive mechanisms. Through a series of interviews with military leadership the study documented how all four variables had had a positive impact on Italy’s improved military capabilities since 2001. For example, the study demonstrated that the Italian military’s perception of the U.S.’s COIN strategy as successful in Iraq met Greve’s criteria for infectiousness. Also, Italy’s decades of experience conducting military exercises with the U.S. and NATO allies, combined with their experience working alongside those same allies in Afghanistan satisfied Greve’s requirement of social proximity.

Hardt (2017) studied OL within the North Atlantic Treaty Organization (NATO) to understand how shared knowledge of strategic errors is acquired and shared. The study focused especially on the role that institutional memory has played in a NATO security environment challenged by significant defense spending reductions and staff turnover. Researchers interviewed 27 NATO practitioners and found that the organization relies primarily on informal mechanisms for the creation of institutional memory: interpersonal communications, private documentation and crisis simulations. While NATO does have more formal OL mechanisms, including a lessons learned center and a lessons learned database, the study found that practitioners are dis-incentivized from using the formal mechanisms due to the perceived personal reputational downside risk.

Nineteenth century Prussian military reform, the British and German armies in World War I, the modern French Air Force debriefing method, Belgian leadership characteristics, Canadian military intelligence methods, Italian military development and NATO institutional
memory are all examples of OL in Western military organizations. The fact that OL is already widespread in arguably all western military organizations is especially good news for the U.S. regional maritime component commanders. Every year, U.S. Navy and Coast Guard forces participate in operational exercises and war games with those allies. And, those allies already participate in the typical “hot wash” review of lessons learned at the end of every event. Again, Argyris’s (1977) single loop is already an embedded element of the working relationship, and double-loop learning is also often present. In other words, an OL paradigm is already ingrained. Thus, additional mechanisms for strengthening OL, and especially the double-loop nature of engagement would likely be accepted by coalition partners as normal.

**OL in Non-Western and Developing Country Military Organizations**

While our European allies already have OL ingrained in their military organizations, the more exponential improvements in maritime security will come through more inclusive cooperation with non-western and developing countries in regions where instability and violence continue to prevail. Returning to Israel, which sits somewhere between the western and non-western world. Marcus (2014) conducted a case study of OL in the Israeli Defense Forces (IDF), examining the tactical problem-solving and adaptation process used by the IDF in the years leading up to their 2006 conflict with the Lebanese militant group Hizballah. The IDF institutionalized their historically intuitive process of ad-hoc learning by developing formal mechanisms for knowledge management. While Lambeth (2012) had previously studied IDF innovation in the 2006 conflict at the leadership level, Marcus traced the development of the IDF’s innovation and OL-related beliefs, symbols, rituals, and practices from the ground level troop upwards. OL evolved organically in the IDF beginning in the 1950s with the formation of Ariel Sharon’s Unit 101, and through progressive wars where Israeli troops sought competitive
advantage against larger and more conventionally-equipped adversaries. Beginning in the late 1990s and through the next decade, the IDF grew to recognize OL, and especially the knowledge management components of OL, as a key competitive advantage against their regional adversaries. They began to institutionalize OL by formally assigning knowledge managers in operational units and conducting daily learning loops. During the 2006 conflict with Lebanon, the IDF launched a dedicated Center for Army Lessons Learned (CALL) modeled after the U.S. Army’s CALL. The IDF CALL was located at the IDF’s unconventional warfare training school where all units would train prior to deployment. At the CALL, they were given updates and briefings based on lessons learned by currently and previously deployed units and operational after-action reports. A key emphasis of the IDF CALL’s approach was on non-punitive, individual reflection and learning from mistakes, and a spirit of innovation that was encouraged by leadership.

Some especially good news is that OL doctrine has been proven successful in some developing country contexts where regional maritime security is at risk, and where country cooperation must be improved. One such country is Kenya. Nafukho (2008) studied Kenya’s public service Results Based Management (RBM) initiative and identified specific synergies between OL and traditional African approaches to leadership and collaboration. OL fits in African society because African style decision-making, whether in industry or politics has traditionally taken the form of lengthy discussions in venues where, while social status is considered important, all contributors are normally provided an equal chance to participate in dialogue until a consensus or group cohesion is reached. Final agreements are typically described by terms such as *omulembe* (peace), *obulala* (togetherness), *umoja* (oneness), and *amani* (peace). Pointing to Marsick’s and Watkins’ (1999) definition of OL where learning is used in a
proactive and integrated way to support and catalyze growth for workers, teams, the organization as a whole, and the communities with which they are linked, Nafukho sees OL as a natural fit with the Kenyan way of working.

Dahanayake and Gamlath (2013) conducted a study of the Sri Lankan Army to investigate the extent to which it can be defined as a learning organization. Like Nafukho’s (2008) study, the researchers applied Marsick’s and Watkins’ (1999) Dimensions of the Learning Organization Questionnaire (DLOQ) and determined that the organization does exhibit multiple characteristics of a learning organization. Specifically, the Sri Lankan Army: (a) creates continuous learning opportunities by making learning is made an integral part of the job; (b) promotes an environment of inquiry and dialogue where members are taught to listen to others, present their viewpoints convincingly and provide feedback; (c) encourages collaboration and spirited team learning; (d) has mechanisms to capture and share knowledge; (e) empowers people and provides a shared vision; (f) encourages members to connect to the external environment and community; and (g) includes learning as part of the executive strategy.

Dahanayake and Gamlath’s study is especially relevant in that Sri Lanka is a coastal nation that has endured decades of instability during the government’s war with Tamil Tiger revolutionary forces, and especially with the naval forces of the Tamil Tigers. In other words, maritime security is a critical concern for the Sri Lankan military. The researchers used Senge’s (1990) definition of the learning organization, emphasizing that OL in the Sri Lankan military is a collective effort to develop the ability of organizational members to create a preferred future that fosters innovation and where continuous learning is encouraged. They also emphasize Moilinen’s (2005) position that a learning organization has learning built into its values, vision
and goals, and embedded in its daily operations. In other words, the Sri Lankan military demonstrates that OL is both philosophical and mechanical.

Tatar (2012) conducted a study that confirmed the feasibility of combining OL with Total Quality Management (TQM) as a transformational solution in the Romanian military. Romania is a westernizing country that borders the Black Sea, with considerable maritime commerce in its neighborhood. Maritime security cooperation is a significant concern for the country, especially since two of its neighboring countries were previously and purposefully destabilized by a regional adversary. If OL can be successfully combined with TQM to improve performance in the Romanian military, that might be an indicator that OL could be similarly combined with other management methods.

Effective regional maritime security cooperation, especially in the non-western and developing world, requires collaboration not only between military organizations, but also with law enforcement agencies. The little research that has been done regarding OL and law enforcement suggests law enforcement organizations are less sophisticated than military organizations on the OL development path. Returning to the western world for a moment, Filstad and Gottschalk (2011) investigated the extent to which espoused values in the Norwegian police force are compatible with OL. Through a questionnaire-based assessment, the researchers tested eight OL values identified in earlier studies by Pedler, Boydell and Burgoyne (1991), Gardiner and Whiting (1997), Watkins and Marsick (1999); Tannenbaum (1997); and Griego, Geroy and Wright (2000): equality and empowerment; openness; change; stability; knowledge organization-orientation; relationship orientation; informal communications; and direct and open communication. The study did find that police managers espoused values of informality and empowerment rather than authority and hierarchical order. However, those were the only values
in the organization that were found to be significantly correlated to OL. If Filstad and Gottschalk’s (2011) findings are reflective of law enforcement agencies around the world, OL might be more difficult to take root in law enforcement than in the military. And, that would be an especially significant concern in the developing world where military and law enforcement roles and responsibilities are often blurred.

In summary, U.S. Navy and Coast Guard forces are already working closely with their counterparts in non-western and developing countries to improve maritime security conditions in every region of the world. It helps that OL is already present in a number of those partner organizations. Adaptive practices in the Israeli Defense Forces (IDF), Sri Lankan military organizational characteristics, and the Romanian military transformation through Total Quality Management (TQM) are all examples of OL in non-western military environments. Like their western counterparts, many non-western and developing country allies already participate in “hot wash” reviews of lessons learned at the end of every exercise and war game, and they do participate in both single loop and double loop learning assessments. Yet, OL may not always be as formally ingrained in those organizations as it is in the west. The key takeaway here for the U.S. maritime component commander is to look carefully for some of the less formalized OL mechanisms that might be present in some of those partner organizations. For example, while some African navies may not have formal OL mechanisms such as CALL organizations, they will likely have certain inherent ways of working where collaboration, reflexivity, buy-in, and even double-loop paradigms are already emphasized and can be leveraged to enhance the coalition dialogue.
OL by U.S. Adversaries

Let’s return for a moment to Ellis’s (2007) suggestion that OL is the new and only form of competitive advantage amongst adversaries, and that OL provides a military organization with the ability to understand, revise, or reverse expectations regarding what works and what does not work, more rapidly than one's opponent. Perhaps the most compelling reason for the U.S. and its allies to embrace OL for competitive advantage is because our adversaries themselves have embraced OL. Borum and Gelles (2005) conducted a behavioral study of how al-Qaeda has emulated previous social movements. The organization has regularly adapted itself as a learning organization with new leadership, tactics, and patterns of recruiting and training. For example, the organization experienced significant senior leadership attrition as members were killed and captured by coalition forces. As a result, the organization learned to operate with a more decentralized structure. As coalition forces began to impede al-Qaeda’s command, control and communications (C3) capabilities, the organization learned to rely less on email and telephone communications, and more on the use of couriers. They transitioned from highly tactical leadership direction from Osama bin Laden and his top-level lieutenants to a more inspirational leadership style where decision-making was delegated to tactical units. Further, as coalition forces learned to counter al-Qaeda’s asymmetric warfare methods, the terror organization learned to adapt new methods.

For an example of how an adversary can practice OL in the maritime environment, we can look at the drug war in the Caribbean basin. Especially through the 1980s the cartels proved themselves highly adept at OL, constantly evolving their operations with operational feints, fake air drops, and other creative tactics, and usually staying one step ahead of the U.S. military forces and agencies. Yet, similar to the conflict against al-Qaeda, as the cartels became more
adept at OL, U.S. and coalition forces also became more adept. Military and law enforcement resources were reallocated to the right roles and locations; new ship type and aircraft type interdiction platforms were conceived and launched; new sensor and communication technologies were developed; and new tactics, techniques and procedures were implemented. Most importantly, the U.S. military and intelligence community’s inherent organizational fluidity described by Manigart (2003) enabled the development of a more sophisticatedly collaborative interagency and multi-country effort. While the drug war is far from being “won”, the Caribbean basin is no longer the singular import pipeline that it was in the 1980s, largely because U.S. and coalition forces outlearned the cartels. Returning to Ellis’s (2007) definition of OL in a military organization, U.S. and coalition forces were able to understand, revise, and reverse expectations about what worked and what did not work, more rapidly and effectively than the drug cartels.

Al-Qaeda, ISIS, Al Shabaab, Latin and South American drug cartels, and Somalian pirates all demonstrate elements of OL. They all have an awareness of OL as a means of asymmetric advantage against U.S. and western adversaries, against whom they cannot compete on a conventional basis. Thus, the key takeaway for the maritime component commander is fairly simple – Do not underestimate OL as a means of strategic advantage, and do not underestimate the adversary’s desire to do the same.

Conclusion

The most important learning from this literature review might be that OL has not been shown to missing from any military organization that has been studied to date. Thus, the question is not whether a military organization can or cannot become a learning organization. Rather, the question is what kind of a learning organization can it be. Ortenblad (2015) examined the elements of OL present in organizations across multiple industries, including the military, and
suggested context-adapted models of the learning organization. For example, Ortenblad suggests the learning public organization (LPublO) should avoid becoming too organic in its structure because it must operate within the parameters of laws and regulations that govern its operations and scope. Power in the LPublO should be rooted in political decisions, and executed by formalized procedure, rather than by individual decision-making. Ortenblad describes other examples, including the learning safety organization (LSafeO), the learning human service organization (LHumServO), and the learning knowledge-intensive organizations (LKnowIntO). While Ortenblad (2015) did not describe the particulars of the learning military organization (LMilO), he did point to Haugrud, Lehmann, and Phillips’s (2001) argument for OL in the military, that the military is simply one of many organizational types that should have its own context-adapted model.

Writ large, what does this mean for regional maritime security cooperation? The answer is threefold. First, the literature does suggest that OL can enhance maritime security cooperation within a regional coalition. Second, while there are likely to be specific OL tools or techniques that do not fit perfectly with certain partner country cultures, there is nothing about OL as a discipline that regional coalition partners would find unnatural. Third, rather than worrying about whether OL can be helpful, the regional maritime component commander and their staff should concentrate on what mechanisms of OL can be the most helpful. Some of those requisite OL mechanisms might be formal, such as a maritime CALL in each region. Other mechanisms might be less formal, including greater leadership emphasis on knowledge-sharing and team reflexivity. In some cases, the security cooperation might benefit from OL mechanisms that are entirely new. In other cases, mechanisms may be already present and need only to be leveraged, emphasized and better communicated. For example, as discussed previously in this paper, Nafukho (2008)
would suggest that some of the U.S.’s African country partners already have OL principles deeply rooted in their cultures. For Nafukho, *omulembe, obulala, umoja* and *amani* are components of OL, or even synonymous with OL. If the symbolic organizational theorists are correct and we can transform the world by *renaming* the world, Nafukho (2008), Schein (1984, 2010), Freire (1970) and others might agree that a useful first step toward improvement might be to rename regional maritime security cooperation as *obulala* (togetherness) or *umoja* (oneness).
Chapter 3: Methodological Approach

This research used an intrinsic case study-based approach. The case study approach is based on an interpretivist-constructivist paradigm. Interpretivist scholars believe that: (a) multiple, equally valid realities can be discovered (Hansen, 2004), (b) reality is constructed in the minds of individuals, and (c) reality must be brought to the surface through conversation between the researcher and participant, and through reflection on that conversation (Schwandt, 1997). For the scholar studying organizational behavior, the challenge is to understand that similar acts can have different meanings depending on their contexts, and vice versa (Merriam, 1988). For example, data may show that two navies in the Asia Pacific region have reduced their military spending as a percentage of gross domestic product (GDP) for three successive years. However, Country A may be reducing spending as a peace gesture. Country B’s spending reduction may be entirely driven by the decline of oil prices. Country B may want to increase spending, but they cannot currently afford to do so.

While case study theory does not have a single seminal scholar, Creswell (1998) points to a multi-disciplinary heritage, specifically psychological studies, medical studies, and legal case studies. Hamel, Dufour and Fortin (1993) traced examples of ethnographic case studies to the early decades of the twentieth century. Geertz combined the ideas of two earlier theorists in a way that was pragmatic and practicable. First, he grounded his ideas in Weber’s (1952) description of humans as beings suspended in webs of significance that humans themselves have spun. Secondly, he believed the objective of social science was to build an understanding of those webs of significance through a process called thick description, a term which he borrowed from Ryle (1949). Thick description requires a careful semiotic study of culture to: (a) identify its individual symbolic elements, (b) examine the specific relationships between those elements,
and (c) describe how the elements and relationships fit together in a whole system of symbols, structures and underlying values. Throughout the process, the researcher must continuously and actively reflect on their positionality and perceptive lens on the culture being studied. The researcher has studied Geertz’s thick descriptive techniques and endeavored to conduct this study in the spirit of Geertz.

**Leading Scholars**

Yin (2009), Stake (1995) and Merriam (1998) are the three leading case study theorists. Creswell (1998) compared and contrasted the three. According to Creswell and Yin a case study is conducted within a system bounded by time and place, although place does not necessarily need to be geographically defined. For Yin, a case may be a tangible entity, such as an individual, group or organization, or a less tangible entity such as a relationship or decision process. Within the bounds of the case, the researcher collects data through multiple sources of information, including observations, interviews, audiovisual materials and documentation and reports.

According to Stake (1995), a case study may be intrinsic or instrumental. In an instrumental case study, the researcher identifies a specific phenomenon, and then selects a bounded case study to illustrate the phenomenon (e.g., selecting a specific school to study high minority attrition rate). In an intrinsic case study, the researcher studies the case itself (e.g., studying a specific school that is known for having a high minority attrition rate). Along with instrumental and intrinsic, Yin (2009) identifies five additional case study types: (1) explanatory studies explain causal links between programs and effects, (2) exploratory studies seek to understand interventions and have no clear outcomes, (3) descriptive studies describe
interventions and phenomena, (4) multiple and (5) collective case studies explore differences between cases.

**Scholarly Debate**

There is some overlap in approach across the three theorists. Yin, Merriam and Stake generally agree in the way a case study must be bound by some construct or series of constructs. Yin and Stake also do not differ significantly in their typology, though Stake categorizes case studies two dimensionally (intrinsic versus instrumental and single versus multiple) and Yin uses a single dimension of seven types. However, the crux of the scholarly debate between the leading case study theorists revolves around the research paradigms. According to Crotty (1998), while Yin does not explicitly describe his epistemological belief, he does emphasize case study conditions that suggest a more positivist leaning philosophy. For example, he emphasizes maximizing the four conditions of research design quality: construct validity, internal validity, external validity and reliability. Yin also argues against making strong distinctions between quantitative and qualitative approaches, instead arguing that there is strong common ground between the two (Yazan, 2015). In contrast, Yazan suggests Stake is firmly in the interpretivist-constructionist camp. Yazan quotes Stake, “most contemporary qualitative researchers hold that knowledge is constructed rather than discovered” (Yazan, 2015, p. 137). Merriam is aligned with Stake and sounds like Weber: “Reality is constructed by individuals interacting with their social worlds.” (Yazan, 2015, p. 137)

Yin’s positivist leaning research paradigm influences his methodological emphases on case study design. He stresses the importance of detailed step-by-step design and preparation of the case study. The researcher must formulate the study questions, the propositions, units of
analysis, the logic linking the data to the propositions, and the criteria for interpreting the findings (Yazan, 2015). Stake argues that the design cannot be created in advance, but rather occurs organically through Parlett and Hamilton’s (1976) heuristic-reflexive progressive focusing approach. Merriam (1988) combines Yin’s and Stake’s design approaches, and suggests (a) conducting the literature review, (b) constructing the theoretical framework, (c) identifying the research problem, (d) developing research questions, and (e) determining the study sample.

**Aligning This Study**

This research meets the definition of an intrinsic case study because the study is bound by the case itself, namely OL within maritime security cooperation. Because maritime security cooperation typically involves many-to-many relationships, and flexes to the requirements of a particular geography or mission, the study is not bounded by organization, geography, country, etc. For that reason, the study is intrinsic, not instrumental. The study also meets Yin’s (2009) criteria for a case study:

1. The researcher sought to understand the “how” or “why” of a phenomenon. Based on multiple preliminary studies, plus professional experience as a military officer and OL practitioner, the researcher believed OL to be present within the U.S. military services, and between partner navies and coast guards. Therefore, the researcher did not believe it was necessary to prove the presence of OL. For that reason, the study was focused on “how”, rather than “if” OL is present.

2. Participants in the study included U.S. Navy and Coast Guard officers who participate or have participated in maritime security operations with partner countries. The researcher did not have the ability to manipulate the behaviors of those participants so that variables could be tested in a hypothesis-based study.
3. The researcher’s goal was to understand contextual conditions of OL with the intention to help the U.S. Navy and Coast Guard and partner countries support and extend those conditions through strategic emphasis and budgeting and resource allocations.

4. The boundaries between the phenomenon and context were not very clear. The literature review demonstrated that the “how” of OL in maritime security cooperation has significant variation based on geography (e.g., European partners versus African partners), and mission focus (e.g., combat operations versus counter-piracy).

**Data Collection**

Yin (2009) recommends six sources of collection so that data can be triangulated: documents, archival records, interviews, direct observations, participant observation and physical artifacts. He emphasizes predevelopment of a data structure and suggests a database as a foundation for analysis. Data should then be collected, coded and then analyzed, and is best when validated against quantitative data. In contrast, Stake’s (1995) approach is heuristic, rather than linear. The data should come through the fog as the researcher inquires, reflects on the participants’ interpretations of their experiences, reflects on their own positionality and interpretation of what is being studied and the participants’ interpretations of their experiences, and then redirects their inquiry as appropriate. In case the case of data collection, Merriam (1988) does not try to reconcile the differences between Yin and Stake. Instead, she emphasizes interview techniques as critical to data collection.

As recommended by Yin, this study used a predeveloped data structure based on Marsick’s and Watkins’ (1999) OL theoretical framework. The framework was used to develop the research questions. The interview questions were also derived directly from Marsick’s and
Watkins’ framework to ensure traceability between the conceptual design of the study and data collection, and to support “data validation and holistic coherence of the inquiry” (Yazan, 2015, p. 144). Data was collected through interviews with ten U.S. Navy and Coast Guard officers between the ranks of Lieutenant (O-2) through Captain (O-6). Collectively the participants represented experience across all geographic combatant commands (i.e., U.S Central Command, U.S. European Command, U.S. Northern Command, U.S. Southern Command, U.S. Africa Command, and U.S. Pacific Command). All interviewees had operational fleet experience working alongside foreign navies. Interviewees included surface warfare officers (SWOs), aviation officers and intelligence officers. Interviews averaged 40 minutes and were recorded and transcribed. All participation was voluntary. Participants were told that their responses would be kept confidential, and that pseudonyms would be used in all reporting documents in place of real names. The interview protocol used for this study is included in Appendix B of the document.

**Analytic Method**

Yin’s (2002) positivist paradigm carries through to data analysis. He reiterates the need for validity and reliability, and suggests pattern matching and time-series analysis as key techniques. Yin emphasizes combining quantitative and qualitative results to answer the research question, and mentions not only “examining, categorizing and tabulating”, but also “testing” which is generally not described as a component of qualitative analysis (Yazan, 2015, p. 144). While Stake’s (1995) data collection approach diverged significantly from Yin’s, the two theorists come closer together in the analysis phase. Unlike Yin, Stake believes that analysis occurs during, rather than after the collection process. Stake emphasizes categorical aggregation and direct interpretation as key techniques for analysis. As the researcher conducts interviews,
reviews documentation, etc., they review and reflect on findings, make sense of those findings and then use the reflexive learnings to redirect the data gathering as necessary. However, Yin and Stake both suggest that data must be aggregated in order to be analyzed. In other words, data points that are elicited during collection must be grouped in some way so that generalizations can be made regarding the phenomenon being studied. Yin aggregates the data after collection has been completed. Stake aggregates data as part of the reflexive process. Merriam (1988) emphasizes some elements that are shared by Yin and Stake (e.g., narrative analysis, triangulation of data across sources), but does place greater emphasis on Stake’s analytic principles and reflection on positionality, in the spirit of Geertz’s (1973) thick description).

The analysis phase of this study followed Yin’s recommendation for a linear approach. In a first cycle analysis, interview transcripts were coded using the descriptive and in vivo techniques suggested by Miles, Huberman and Saldana (2014). In a second cycle key words and phrases were aggregated into a set of themes. In a third cycle, the themes were connected with Marsick’s and Watkins’ seven imperatives. The analysis also followed Stake’s and Merriam’s recommendation to include a heuristic-reflexive interview approach that forced some initial analysis and redirection of questioning during the collection phase.

**Presentation of Findings**

According to Baxter and Jack, there is no “correct” (Baxter and Jack, 2008, p. 555) way to report a case study. Yin (2009) suggests six methods: linear, comparative, chronological, theory-building, suspense, and un-sequenced. Baxter and Jack suggest framing the findings in a story, chronological report, or addressing each proposition. This study used Baxter and Jack’s
“addressing each proposition” (Baxter and Jack, 2008, p. 555) approach and presents the findings by theme.
Chapter 4: Findings

Summary of Findings

The overarching research question for this study was: *How do U.S. Navy and Coast Guard officers describe how they learn and work cooperatively with their foreign navy counterparts?* A supporting question was based on Marsick’s and Watkins’ (1999) OL model: *How do officers describe how U.S. and partner county maritime organizations: create continuous learning opportunities (CL); promote inquiry and dialogue (ID); encourage collaboration and team learning (CT); establish systems to capture and share learning (LS); empower people toward a collective vision (EM); connect the organization to its environment (EN); and provide strategic leadership for learning (SL)?*

As explained earlier in this document, for the purpose of readability, and in accordance with dissertations and articles by previous researchers, this study uses the abbreviation (OL) for organizational learning. The researcher also identified two-letter abbreviations for each of Marsick’s and Watkins’ (1999) seven imperatives as presented in the paragraph above. The study yielded eight findings:

**Finding 1:** OL enables maritime security cooperation between partner countries.

**Finding 2:** OL is enabled through collaborative activities that include briefings, exercises, combined operations and after-action reporting.

**Finding 3:** OL is enabled through communicative activities that include common language, face-to-face interactions, common understanding of informational need-to-know, common nomenclature, and radio communications.
Finding 4: OL is enabled through organizational elements and concepts that include organizational structures, unified command, and vertical commonality.

Finding 5: OL is enabled through human relationships that include common interest, equality, personal relationships, and trust.

Finding 6: OL is enabled through technology that includes a common operating picture (COP), common operating platforms, and common networks.

Finding 7: OL is enabled through combined formal education and training and on-the-job training (OJT).

Finding 8: OL is enabled through work practices that include directives, intelligence and tactics, techniques and procedures (TTPs).

Participants

Data was collected through interviews with ten U.S. Navy and Coast Guard officers between the ranks of Lieutenant (O-2) through Captain (O-6). Collectively the participants represented experience across all geographic combatant commands. All interviewees had operational fleet experience working alongside foreign navies. Interviewees included surface warfare officers (SWOs), aviation officers and intelligence officers.

The following 11 interviewees participated in the study. The pseudonyms were randomly selected by the researcher based on U.S. aircraft carrier names. They are not intended to portray gender, ethnicity or any other demographic. All participants are identified using the he/him pronoun.
1. Abe is an Intelligence Officer with less than ten years of experience in the Navy. Abe has served in both afloat and shore-based assignments. He was previously enlisted in the Marine Corps. Abe’s most recent deployment was aboard an amphibious ship operating in the Mediterranean and Middle East where he served as the ship’s Intelligence Officer, Security Manager, Assistant Operations Officer, and Officer-in-Charge of the vessel’s Scan Eagle unmanned aerial system (UAS). Abe has participated in joint exercises in the Arabian Gulf with the British Navy.

2. Carl is an Intelligence Officer with less than ten years of experience in the Navy, and was previously enlisted in the Army. He has spent a majority of his service time in shore-based assignments. He recently served in Afghanistan where he worked alongside Navy SEALs within the NATO Joint Special Operations Task Force (JSOTF). He is currently assigned to the Office of Naval Intelligence (ONI). Carl has experience working alongside partner country navy and coast guard forces from Afghanistan, France, Poland, Austria, Estonia, Latvia, and Romania.

3. Ike is an F-18 Hornet Fighter Pilot with more than twenty years of experience in the Navy. He has served in both aircraft carrier squadrons and shore-based training squadrons. While stationed in Atsugi, Japan, and supporting the Kitty Hawk battle group, Ike’s squadron worked closely with South Korean, Thai and Japanese forces and participated in multiple years with those countries in Exercise Foal Eagle, which typically includes 300,000 South Korean military forces. As an instructor in the T-45 Goshawk trainer, Ike trained Brazilian naval air forces.
4. Jack is a Surface Warfare Officer (SWO) with less than ten years of experience in the Navy. At the beginning of the interview he shared that he attended Virginia Military Institute. Jack’s experience has been primarily on frigates and minesweeping vessels. He has served as an Electrical Officer, Cryptology Officer, Operations Officer, Training Officer and Navigator. He has participated in multiple operations and “hundreds” of exercises with partner navies in the Asia Pacific area of operations, including Japan, South Korea and the Philippines. Jack participated in the Rim of the Pacific (RIMPAC) exercises with more than ten partner country navies and coast guards in 2011 and 2013. He recently completed an assignment teaching naval science at one of the nation’s maritime academies where his classes included international students.

5. Kit is a Surface Warfare Officer (SWO) with more than ten years of experience in the Navy. He shared that he attended the University of Texas, where he earned his undergraduate degree in Biology. Kit has served in destroyers and in the Navy’s amphibious fleet, and has worked mostly within the U.S. European Command (EUCOM) area of operations. He has spent significant time in the Mediterranean, and has worked with the British, French, German and Italian navies in maritime security-related operations and exercises. Kit has significant experience in multinational maritime security, counter-piracy, and visit, board, search and seizure (VBSS) operations.

6. Lang is a Surface Warfare Officer (SWO) with more than ten years of experience in the Navy. Lang is a graduate of the U.S. Naval Academy in Annapolis, MD, and has served in amphibious ships and cruisers based on the West Coast and operating in the Asia-Pacific region. Lang has served as a division officer and as an assistant operations officer. He has participated in operations and exercises with partner navies from Malaysia, the Philippines,
Singapore and Mexico, and participated multiple years in the Rim of the Pacific (RIMPAC) exercise with more than ten partner countries.

7. Lex is a Deck Watch Officer (DWO) with more than 25 years of experience in the Coast Guard, serving in high-endurance and medium-endurance cutters and commanding an East Coast-based medium-endurance cutter. He is a graduate of the U.S. Coast Guard Academy. Lex served as Commodore, Patrol Forces Southwest Asia, responsible for building partnerships with Arabian Gulf countries. He worked closely with partner country navies, coast guards and law enforcement agencies from Kuwait, Saudi Arabia, Bahrain, Qatar, United Arab Emirates and Pakistan. Lex also participated in Africa Partnership Station (APS) alongside multiple European navies and coast guards, and military forces and law enforcement agencies from Nigeria, Cameroon, Senegal, Ghana, Gabon, Sierra Leone, Togo, Equatorial Guinea, and Kenya. Through his studies at the Naval War College and graduate-level business study, Lex is familiar with OL theories and principles.

8. Ron is a Naval Flight Officer (NFO) with more than twenty years of experience in the Navy. He served in primarily shore-based assignments and recently retired from the Navy. He flew in the EP-3J Orion reconnaissance aircraft and was stationed both in the continental United States and in Rota, Spain where he operated with multiple NATO partner navies and air forces. Ron also interacted with aviators from Italy and other partner countries while stationed at Mather Air Force Base in Sacramento, CA and Lackland Air Force Base in Texas. Ron has also spent significant time outside the Navy as a management consultant, consulting to multiple Fortune 50 companies. He is familiar with OL theories and principles.
9. Sara is a Surface Warfare Officer (SWO) with more than ten years of experience in the Navy. Sara attended Boston College and has served primarily in guided missile cruisers in a variety of division officer and department-level leadership roles. Most of Sara’s at-sea experience is in the U.S. Central Command (CENTCOM) area of operations, and especially in Combined Task Force (CTF) 152, which is responsible for maritime security operations in the Arabian Gulf. Sara has worked alongside partner navies and coast guards from the United Kingdom, Saudi Arabia, Bahrain, Jordan, Qatar, Kuwait, United Arab Emirates.

10. Ted is Naval Flight Officer (NFO) with more than ten years of experience in the Navy. He has served in both aircraft carrier squadrons and shore-based training squadrons. Ted’s primary aircraft is the F-18 Super Hornet. He has deployed at sea as a member of multiple carrier strike groups (CSGs), and deployed ashore to air bases in Kuwait and Qatar. Ted has worked and trained alongside naval aviation partners from the United Kingdom, France and Norway.

11. York is an Intelligence Officer with more than twenty years of experience in the Navy. He has served mostly in shore-based intelligence-related assignments and was previously an enlisted sailor in the Navy. York has worked at U.S. Central Command (CENTCOM) in Tampa, FL, and in CENTCOM’s satellite commands within the continental United States. At CENTCOM he worked alongside officers from multiple European and coalition partner navies. He also completed a year-long deployment at Naval Station Guantanamo Bay (GITMO) in Cuba. Most of York’s operational experience has been as an intelligence analyst in joint intelligence operations centers (JIOCs).
Detailed Findings

The researcher transcribed the 11 interviews and identified 448 keyword and phrase artifacts. The artifacts were aggregated into 25 artifact groups, and then aggregated again into eight overall findings. The detailed findings of the study are presented below. In a small number of areas in this chapter, the researcher has weighed in with his own personal experiences in maritime security operations specifically and in naval operations overall. This was done only in cases where the researcher was confident that that information would have eventually emerged through additional interviews. Throughout this chapter, the researcher’s own practitioner inputs have been italicized to emphasize disclosure.

Finding 1: OL Enables Maritime Security Cooperation Between Partner Countries

The study was purposely qualitative and intended to explore not “if”, but rather “how” mid-grade U.S. Navy and Coast Guard officers perceive OL as an enabler of maritime security cooperation between partner countries. However, the data did validate the presence of OL. When the interview coding was tabulated, all seven of Marsick’s and Watkins’ (1999) imperatives were shown to be supported by artifacts. CT had the most supporting artifacts, closely followed by SL, LS and CL. None of the seven imperatives stood out as being weakly supported. The study found that mid-grade Navy and Coast Guard officers do perceive OL as an enabler maritime security cooperation between partner countries. As Findings 2 through 8 will demonstrate, officers perceive that OL itself is enabled through collaborative activities, communicative activities, organizational elements, human relationships, technology, formal and informal training and education-related activities, and work practices.
The interviewees echoed multiple examples of military OL previously described in the literature review. For example, Carl’s description of an Afghan special warfare training program developed by Navy SEALs and other coalition special forces sounds similar to the U.S. Army’s CALL (Center for Army Lessons Learned) model described by Baird, et al. (1997, 1999). Multiple participants described after-action reporting in terms very similar to descriptions by Baird, et al. (1997, 1999), Darling and Parry (2001), and Brock et al., (2009) of the Army’s After-Action-Reporting (AAR) protocol. Participants Ike, Ted and Ron told multiple stories of OL through flight pre-briefings and post-briefings that echoed the lessons learned by Gode and Barbaroux (2012) in their study of French aviation squadrons.

According to Naval Flight Officer (NFO) Ron, “Well, every time I think about a time that I worked with a coalition partner I think about the learning. When we operate together, that’s what we spend most of our time doing – training, learning, figuring out how to do things better, etc. I would say that learning is the basis of every relationship the Navy has with every other partner country we work with. They attend our schools so that they can learn how to better work with us. We do exercises together so that we learn how each other operates. We then do combat operations or humanitarian operations with each other, we apply those learnings. And, just like every aircrew does at the end of every sortie, we reflect on what we can do better next time. So, when I think of any other navy I have worked with, I am generally thinking about the time we were training or exercising together. And that’s organizational learning, right? It’s the essence, the essence of all military operations, and the essence of all military operations with other countries, too. And the stakes are much higher in our world. If we don’t learn faster than the adversary, we don’t lose market share, we lose lives – Sometimes thousands or millions, and
treasure too. We win wars by learning faster than our adversaries, although sometimes it takes a while for that engine to get rolling – The learning engine.”

**Finding 2: OL is Enabled Through Collaborative Activities**

Participants in the study described a category of OL-related artifacts that are collaborative and generally observable. The collaborative activities finding was supported by the following artifact groups: (a) *After-action reporting* includes sessions and events intended specifically to record and analyze post-operational or post-exercise lessons learned; (b) *Briefings* are information-sharing sessions, which may include pre-briefings, operational briefings and debriefings conducted by U.S. forces or between U.S. and partner country maritime services; (c) *Exercises* include multinational naval training events which include U.S. and partner country navies and coast guards. The exercises may be large fleet exercises or smaller exercises between ships, squadrons and workgroup-level organizations. Exercises may be multi-lateral (multi-country) or bi-lateral (two countries). The annual Rim of the Pacific (RIMPAC) exercise conducted by U.S. and Asia Pacific partner country military services in the U.S. Pacific Command (PACOM) area of operations is an example of a multilateral exercise; (d) *Combined operations* are “real world” mission-related activities conducted between combined U.S. and partner country services. A counter-drug operation to arrest cartel members conducted by combined U.S. and Latin American partner military services in U.S. Southern Command (SOUTHCOM) is an example of a combined operation.

**Briefings**

A briefing is an event that occurs prior to, during or following an operational event, a training event or an exercise. Participants described briefings related to surface ship operations,
submarine operations, air operations and boarding team operations. Briefings are oral presentations or information sessions and may be presented from junior to senior personnel, from senior to junior personnel, from one workgroup to another, from one person to another, from one person to many, or many persons to one. Briefings may be conducted in person or by videoconference or teleconference. No matter the participants or the venue, briefings are common vehicles of communication when operating or conducting exercises with partner countries.

Participants mentioned briefings in support of five of Marsick’s and Watkins’ (1999) seven imperatives. Briefings were especially supportive of the CL and the CT imperatives. Intelligence Officer York from Joint Intelligence Center Central Command (JICCENT) described the “battle rhythm of briefings” that occur between partner countries within a joint operations center (JOC) or joint intelligence center (JIC) and said “It’s very mechanical. You don’t see such a forceful mechanism in any other industry. I would call it our inquiry and dialogue engine.” Participants described the briefing as the primary vehicle for daily communications between individuals and groups participating together in a mission or operation. According to Surface Warfare Officer (SWO) Kit, “every event we executed, we would have a brief for it.”

Briefings are also crucial to the SL imperative in that they are a primary vehicle for vertical information-sharing up and down the chain of command, especially when leaders and their operating forces are from different countries. Jack described how, during his time as a SWO aboard minesweepers in the Asia Pacific area of operations, exercise pre-briefings were conducted at the tactical shipboard level as well as “high up the chain of command and bilateral” between U.S. and Japanese admirals.
In the naval aviation domain, Gode and Barbaroux (2012) studied pre and post-operational mission briefings in French aviation squadrons and examined how those briefings allowed the aviators to combine both individual and collective progress in a dialogue. Similarly, Ron emphasized that ID is “built into the process” and “part of every mission pre-brief and debrief when a U.S. Navy EP-3J Aries flight crew is given its mission orders, or when combined squadrons are briefed. No matter what country you come from, and whether you are being pre-briefed or debriefed for a U.S.-only operation, or whether you are sitting in the briefing room with your international counterparts, you know that you will have a learning dialogue. You will be briefed on the mission objectives, the mission parameters, including flight time, refueling, etc. You will be briefed on the ROE (rules of engagement), friendlies and adversaries likely to be encountered, and the latest intel on the capes (capabilities), intentions and TTPs of the adversary. And you will have the opportunity to ask questions and make known your own points of view in a back-and-forth dialogue. There’s a lot of team spirit in the flight briefings. Everyone gets on the same page. Not to keep returning to business world stuff here, but companies could create super high-performing sales and marketing teams if they were able to replicate that rhythm of briefings we have in the naval aviation community. Sadly, I have never seen it happen. If you could (emphasis) make it happen, your company would have an amazing competitive advantage because they would build an amazing understanding of the competitive landscape, and they would be tremendously more agile than their competitors. That’s my opinion anyway.”

Exercises

When partner country navies and coast guards work with one another, it is often within the context of naval and other military exercises. Exercises was the fourth most mentioned OL artifact in the interviews. Exercises are events where individual and partner countries plan,
conduct, evaluate and learn from “notional” or mock operations that may eventually take place in a future real-world environment. Bilateral exercises are conducted between two partner countries, and multilateral exercises are conducted between multiple partner countries. Exercises are generally planned and managed by the U.S. Navy fleet commanders in the various regions of the world and in cooperation with partner country military services. For example, the U.S. Seventh Fleet staff, which is based in Yokosuka, Japan, plans and manages the annual Rim of the Pacific (RIMPAC) exercise in the Pacific area of operations. Some other exercises are planned and managed by partner countries, and U.S. forces play a participant role. While briefings provide a more micro-level venue for partner countries to collaborate, exercises seem to provide the more macro-level organizing venue. As Geertz (1973) might explain, if a briefing is a dance at the dance, the exercise is the dance itself.

Abe described his experience conducting bilateral exercises with the British Navy, “We did a couple of joint exercises underway exclusively with the British Navy. No other foreign partners were involved. So, it was U.S. and British doing a joint exercise in the Arabian Gulf. It’s something we do altogether on a regular basis. So, the exercises that I participated in were yearly exercises, and nothing outside the normal operational tempo, and there was no event triggering the need for a joint exercise. It was a yearly exercise in the Arabian Gulf.”

While exercises do include training activities, exercises differ from training in that they are intended to test, evaluate and improve specific combined operational capabilities. According to Lang, “I participated in RIMPAC (Rim of the Pacific Exercise) twice, and we did other exercises with quite a few navies in the Asia Pacific AOR. So, the Malaysians, the Philippine Navy, the Singapore Navy. The Mexicans too, when we did some drug ops down south. We worked alongside a Royal Malaysian Navy vessel for several weeks. I think all the exercising
and training that we do with the Malaysians has really paid off. They really work effectively with us and with all the European navy partners as well. We had the French out there with us also.”

Lex, a senior Coast Guard officer who had commanded multiple Coast Guard cutters, echoed Lang’s opinion: “The biennial naval exercise AMAN (peace in Urdu) is a truly international partnership of naval cooperation and relationship building. Across the successive years 2007, 2009, 2011, 2013, and last year in 2017 this gathering of international navies and coast guards crosses all cultural, regional, and alliance barriers. I participated in Aman-2011 as Commodore of U.S. Coast Guard Forces Southwest Asia. Our patrol boat crews participated in cultural events, technical training seminars, and at-sea exercises with naval and coast Guard crews from over 30 nations including some of our closest allies and our most capable adversaries.” Lex’s comments are noteworthy in that he mentions the participation of adversaries. Exercises provide an opportunity for adversaries to find common ground and prepare with one another for common security challenges such as counter-terrorism, counter-piracy, and humanitarian assistance and disaster relief.

Exercises were especially supportive of the CL imperative. SWO Kit discussed time aboard the Arleigh Burke-class guided missile destroyer USS Barry (DDG-52) and the multiple maritime security-related exercises that were conducted with the Italian and German navies. Ship maneuvering exercises and VBSS exercises provided the construct for the combined country crews to collaboratively and continuously learn through multiple exercise cycles. Kit also explained how briefings and exercises were combined to enable OL: “And we briefed and re-briefed and practiced what we would do” during the exercises. Abe, an Intelligence Officer aboard the afloat forward staging base vessel USS Ponce (LPD-15), also pointed to yearly
exercises conducted with the British Navy as supportive of OL between country partners. Lang referred multiple times to exercises as enablers of CL and CT.

Jack clarified how meetings, briefings, after-action reports and many other organizational learning activities were nested in the exercises: “I did trilateral exercises, hundreds of minesweeping exercises with both the South Koreans, Japanese, and Filipino navies.” He described on such exercises: “Specifically, with that exercise that I was very involved with, the tabletop (planned exercise structure) changed repeatedly before we got to the OPORD level (where operational orders were generated). We conducted the exercise off the OPORD with multiple meetings in progress while we were conducting the exercise that we were not only doing after-action reports consistently, but we were debriefing on a very high level (upper echelons of the organization) through to the very low levels. So, I brought the mine warfare officer onboard the ship, our tactical actions officer for that specific section, to the debriefs along with the OPS (operations officer), my captain and my XO (executive officer), and the bridge watch commander. And the five got briefed on their teams. They would brief their teams. The captain would then brief with the other captains. And we would build a bottom up. And then we would tear it down. We did that every day through the entire exercise. And at the end, we all met and table topped it (discussed lessons learned) with a mimic of what we did (emphasis), with the after action of what we should (emphasis) have done being written into that to almost get a final picture of, ‘Here was our original plan. Here’s what we actually did. Here’s how we could have tweaked it a little more and make it even better. And that’s what we use for the next year.’”

**Combined Operations**

Along with exercising with one another, in recent years U.S. and foreign navies and coast guards have increasingly come together to conduct highly successful real-world combined
operations. Some examples include counterpiracy operations in the Horn of Africa and Gulf of
Aden and disaster relief efforts in Indonesia, Japan, and Haiti. Combined operations were the
fourth most mentioned OL artifact in the interviews. Participants mentioned combined operations
in support of all of Marsick’s and Watkins’ (1999) seven imperatives, and especially in support
of CL, CT and EM.

Participants described combined operations in a variety of ways. For example, Sara
recounted being assigned to the Fifth Fleet area of operations in the Middle East: “And for a
good chunk of those deployments, we worked with CTF-152 (Combined Task Force 152), which
is combined maritime forces that works for theater security operations. So, it's a coalition of
multiple nations in the region. I have them actually listed here, Saudi Arabia, Bahrain, Jordan,
Qatar, Kuwait, United Arab Emirates, the UK, and the United States. So, the main mission of
CTF-152 is kind of building that collective security. We did visit, board, search and seizure
operations collecting intelligence and maritime awareness about what was going on in the Gulf.
And another interesting thing about CTF-152 is that the command rotates between the heads of
the member nations. So, I believe that when we were there our commander was from the UK.
And then I think it rotated to Australia.”

Jack explained how combined operations supports OL when U.S. and foreign maritime
services “cross-deck” personnel on a regular basis. Cross-decking means assigning personnel
from one ship or service to another. Ted described how regularly working alongside British,
French and Australian aviation officers resulted in continuous learning of each other’s practices.
Ike, an F-18 fighter pilot, used the phrase “worked closely with” multiple times when talking
about OL overall, and specifically when asked about CL and CT, and while operating alongside
South Korean and Brazilian partner country aviators. To explain EM, he described his time
flying with aviators from Thailand while assigned to the USS Kitty Hawk (CVN-63). He witnessed the Thai aviators’ confidence levels increase as they had more time flying together and learning alongside the U.S. naval aviators.

Like Ike, Lang regularly used the phrases “operate together”, “actual operations”, “worked alongside”, “operating alongside”, and “operating with us” to explain OL, CT, EM and EN. Abe similarly described EM between U.S. and British Navy intelligence teams aboard the afloat staging base USS Ponce: “Having them embedded, I think certainly brought a lot more visibility to them being a part of the team rather than just part of the exercise”.

**After-Action Reporting**

After-action reporting, which is also known informally as a “hot wash”, typically occurs at the completion of an operation or exercise. After-action reporting involves active reflection, discussion, documentation and dissemination of lessons learned by individuals, teams, ships, squadrons, fleets and combined military organizations. Depending on the environment, after-action reporting may be conducted in person, by videoconference, or by teleconference, or as part of a briefing. Participants mentioned after-action reporting in support of six of Marsick’s and Watkins’ (1999) seven imperatives. After-action reporting was especially supportive of CL and CT.

Returning to Gode’s and Barbaroux’s (2012) study of OL in French aviation squadrons, flight crews participate in after-action reporting by reflecting on errors committed by themselves and their combined squadron mates, and then engage in deep and reflective conversation to find appropriate remedies. In other words, the aviators participate in what Argyris and Schon (1978) describe as single-loop learning. Ron validated that Gode’s and Barbaroux’s (2012) findings
were equally relevant when U.S. aviators fly missions alongside their foreign counterparts. In describing CL, he explained, “It’s built into the way we work every day. At the end of a mission we do a hot wash. Figure out what we did well and what we didn’t. And if we are operating with a partner navy or air force, they take part in the conversation. I know they also do their own hot wash too.”

In the surface warfare domain, Jack explained how after-action reporting resulted in the identification of a significant communication gap between U.S. and Japanese surface forces, and a reconfiguration of a work space in the operations center. In the after-action reporting session, Jack realized “Hey, you guys are moving way faster than we are. We either need to move our systems around or you need to send it through this system. So, what we did is we changed our operations from this chat communication system to an alternate one to be able to communicate directly with the person who is tactically in charge of their situation.”

Sara explained how after-action reporting supported CT during VBSS operations with partner countries. The Force Protection officer aboard the U.S. vessel was responsible for collecting information from all personnel who had participated in the operation, including the boarding team members, boat crew, bridge team members and the partner country liaison officers. Identifying a specific officer to be responsible for after-action reporting on a recurring basis formalized and regularized the combined learning.

Lang believes inquiry and dialog is achieved “by the way we operate together and the way we do combined after action reporting. Before any operation, we have pre-briefings. During an operation, we have inquiry and dialogue all the way through. It happens when the upper echelon command asks for a status and the lower echelon provides a SITREP (situation report).
It happens when one unit inquires something from another unit. It happens when one pilot inquires something from another pilot. And at the end of every operation we have inquiry and dialogue too in the after-action reporting – when we as individuals or as units or as task elements and task groups provide feedback to each other. It’s actually built into the way we work.

*Based on personal experiences in the fleet, the researcher has observed that after-action reporting sometimes has a reflexive element in which the participants reflect, not only on what they learned, but how they learned. In other words, there is often a hot wash of the hot wash itself. Thus, after-action reporting sometimes meets Argyris’ and Schon’s (1978) criteria for double-loop learning. Double-loop reflection is very often visible in formal settings. For example, when naval vessels complete their pre-deployment training and assessments to become “certified” for deployment by an Afloat Training Group (ATG), the ATG certifiers often facilitate conversations amongst one another and with the crews they certified to assess what was learned about the learning process itself. Also, the researcher has participated in war games at the Naval War College that were specifically intended to “game the game”, to reflect, assess and improve on how the Navy does war games.*

**Finding 3: OL is Enabled Through Communicative Activities**

Participants in the study described a category of OL-related artifacts focused largely on interpersonal communications. The communicative activities finding was supported by the following artifact groups: (a) *Face-to-face* describes in-person interactions between U.S. and partner country maritime services personnel. (b) *Common language* refers specifically to English as the common language used by U.S. and partner country maritime services when they are working together; (c) *Need-to-know* describes the common understanding within and between partner countries and their personnel that nationally classified information (e.g., confidential,
secret, top secret, etc.) will be shared on a need-to-know basis, and within the constraints of each country’s national laws and policies; (d) *Common nomenclature* describes an agreed set of naming conventions and commonality of platforms (e.g., frigates, cruisers, fighters, etc.) and operational terminology (e.g., combined warfare commander, anti-air warfare commander, etc.) used by U.S. and partner country maritime services; (e) *Radio communications* describes voice radio-based communications between U.S. and partner country maritime services during operations, exercises and training. Along with the relationships, communicative activities were the second most often-mentioned theme in the study.

**Common Language**

Common language means that the participants made specific references to English as a common operating language for military units and personnel participating in a combined operation or exercise. Participants mentioned common language in support of OL overall and specifically in support of CT.

Kit explained common language within the context of CT: “Everyone spoke English. Especially over the voice circuits and we spoke to each other in English in drills and VBSS exercises. And we also spoke to each other in English for the ship maneuvering exercises as well. Given that it was a predetermined exercise, we already knew that we were going to speak to each other in English. So, it was given that the boarding teams would interact with crewmembers in the exercise in English. And the crew members responded back in English.”

Lang agreed: “It’s a good thing that our country partners do speak English for the most part. That makes operational briefings easier. It makes it easier for us to train together. And obviously, when you are talking on the radio, you need to be able to have some common
language, and English is pretty much the norm. Especially the developing countries in Asia-Pacific and Africa. They are training with us, operating with us, and maintaining radio communications with us in English. Also, they’ve attended U.S. Navy service schools and our command and staff schools at the war colleges. So, they understand our terminology too. Language binds us together. Helps us work together as a team. Depends on your level a bit, right? Deckplate (enlisted) sailors in a partner navy that speaks French might only speak French. But at least a percentage of the officers will speak some English. That’s our cement.”

_Based on the data collected in the interviews, the researcher conducted additional research to confirm whether the International Maritime Organization (IMO) or any other organization regulated language usage on the high seas. According to the National Oceanic and Atmospheric Administration), through the 1960s, most merchant ships and crews were licensed and flagged in the United States and the United Kingdom, and 80 percent of merchant crews were native English speakers. Through the 1970s to the modern era, merchant crews have increasingly been recruited from developing countries. Current, only 20 percent of merchant crews are native English speakers. In response to the change, in the 1980s the IMO engaged a group of linguists and shipping experts to create a common language called Seaspeak. In 1988 the IMO adopted Seaspeak as the world’s official maritime language for use in radio communications. Seaspeak is based on the English language and uses a limited number of words to ensure that communications are short and clear. For example, eight common words precede each sentence, and all numbers are spoken as single digits. For example, 9:34 a.m. is spoken as zero nine three four (NOAA, n. d.). Naval and coast guard vessels of all countries communicate, operate and exercise with merchant vessels on a daily basis. The daily usage of English-based Seaspeak supports Lang’s comment “That’s our cement.”_
Face-to-Face

Face-to-face refers to when participants made specific references to the importance of having in-person conversations and interactions between personnel from partner countries participating in combined operations, exercises and training. Face-to-face was the most often-mentioned artifact in the study, and was mentioned mostly in support of ID, CT and SL.

Ike talked about how face-to-face venues enable ID within the aviation mission. He emphasized the relationship-building value of having the U.S. landing signals officers (LSOs) from his squadron travel to Brazil to work face-to-face with the Brazilian pilots who would eventually be landing on the U.S. aircraft carrier. Ike also discussed the face-to-face relationships that his squadron had with the Thai pilots, and how those conversations enabled combined mission success. Kit echoed that emphasis for the surface warfare mission. When discussing ID and CT he emphasized the value of being able to “just sit down and talk” to his Italian Navy officer counterparts supported both ID and CT. Abe said the same for the intelligence mission when discussing the ID, EM and EN imperatives: “We also had folks on board our vessels from the British Navy so that they could interact with our crew. I think the co-location is key.”

Sara emphasized the value of face-to-face interaction for ID and CT, not only during exercise and operations, but also in the planning stages, and for after-action reporting, to ensure comprehensive data collection from everyone who had participated in an exercise. Sara explained, “I do know that face-to-face discussions were had not on my ship but definitely in the planning stages that I was not present for. But where I did have a face-to-face, and this may not have been part of CTF 152 exercises, but we had Navy SEALs who were training the Bahraini Special Forces (face-to-face) on how to board ships. And I do remember that they had Bahraini Special Forces observing our special forces in how they would conduct a capture of a ship. So,
there was face-to-face interaction there.” Lex emphasized: “The most valuable investments in future naval cooperation were the interactions amongst our young leaders. Our patrol boat officers were inspired by the professionalism and candidness of their counterparts. Our naval services, our ships, and our longstanding customs are ideal frameworks for international relationship building.

The consistent mention of face-to-face as the preferred communication medium was notable in this study. In today’s world where communications are increasingly more technology-assisted, and decreasingly face-to-face, OL between partner country navies and coast guards remains highly dependent on the most human kind of communication. Throughout the interviews, face-to-face is the preferred medium for all interaction types: pre-briefings, post-briefings, after-action reporting, air operations, surface warfare operations, minesweeping operations, VBSS operations, etc. More importantly, as will be discussed in Finding 5, face-to-face is a facilitator of human relationship-building, which was shown to be an equally critical component of OL.

The researcher has participated in multiple combined operations with partner countries in the European, Asia Pacific and Middle East areas of operation and has observed notable changes in quantity and quality of ID when operations and exercises move from the planning phases, which often do not include a significant amount of day-to-day, face-to-face interaction, to the implementation phase, which does involve more routine face-to-face interaction. The researcher has observed the same phenomenon in the air and ground domains, and especially in the maritime domain.
Three participants referred specifically to storytelling within the context of discussing face-to-face communication, and as an enabler of CL and ID. While the number of occurrences is low, the specificity is noteworthy. Ted talked about “telling stories back and forth” with his British, French and Australian Navy counterparts to build a common understanding of aviation operations during the initial days of Operation Odyssey Dawn in Libya. Kit similarly explained how, when working with the Italian and French navies, they would “kind of share each other’s stories and experiences, as well as tips and tricks.”

_Storytelling was identified as an artifact late in the data gathering process. Based on his own experience, the researcher believes that additional probing questions would likely have elicited a greater number of examples of storytelling and multiple connections with the personal relationship and trust artifacts. Storytelling is a known element of maritime and seafaring culture, not only in the movies, but also in the real world. In the spirit of Geertz (1973), the researcher believes that the storytelling artifact is worthy of follow-on study in order to build a thicker description of the ID dimension._

**Need-to-Know**

Need-to-know is a commonly used phrase across all military services and in government agencies overall. Personnel are given access to classified information (e.g., secret, top-secret, etc.) based on the security clearance that they are granted following an appropriate background investigation and adjudication, plus the “need to know” specific information. For example, a U.S. Navy officer with a top-secret security clearance is not necessarily granted access to top-secret information related to submarine operations unless that officer has a clear operational need to know that information for their assigned mission or day-to-day job. Need-to-know was mentioned mostly within the context of CT.
A person without government experience might expect need-to-know to be a source of disagreement or tension among personnel within an organization, and especially between organizations. One would reasonably expect need-to-know to be a barrier to OL. That has certainly been the case between some U.S. government intelligence organizations and law enforcement agencies. However, the opposite seems to be the case in the maritime security cooperation realm. No participant indicated or implied that need-to-know was a constraint. On the contrary, need-to-know seemed to be voiced as an acknowledgement that partner countries don’t need to share all information with one another. They just need to share enough to get the job done. Need-to-know seems to be referenced as an enabling construct, describing the agreed parameters within which information can be shared, rather than as a prohibitive barrier.

For example, Ted explained need-to-know within the context of CT and the “Five Eyes” agreement between the five countries of Australia, Canada, New Zealand, the United Kingdom and the United States for the sharing of signals intelligence, military intelligence, and human intelligence. Like other participants, Ted looked at the Five Eyes agreement as a glass half-full that clarifies what partners can, rather than cannot share with one another, and “has given us the ability to interoperate with each other.”

Similarly, within the LS context, Jack described need-to-know as the primary principle under which shared networks can be architected to hold the knowledge required for partner countries to work together. He described an occasion when he needed navigation information from a partner navy so that his own ship could safely navigate an area that had been mined. The partner navy could not release the navigation chart to U.S. forces because it was classified by the partner country. The situation did not cause friction between the two parties because both acknowledged the situation as a norm. And, because the information could not be quickly
transferred in its entirety with the push of a button, officers from the two partner countries were instead required to have a telephone dialogue in order to share not all the information on the chart, but enough information for the American vessel to make a safe transit. Jack explained, “I didn’t actually get the chart. What they did is they sent me a scan of the areas I needed to know. Specifically, they were, ‘Okay. What’s your intended plan?’ I gave them my intended plan, and then on one interaction where they said, ‘You need to move. You don’t want to drive right here. Make sure you stay clear of this point by 400 yards.’ I was like, ‘Okay, can I drive through that part of that?’ And we figured it out, and we were good to go.”

According to Ron, “Need-to-know is an acknowledgement that we all have limitations on how we can work together. For me, that means that, within the Navy, within the U.S. Navy, there are things that I need to know in order to perform my job. And there are things that I don’t need to know. For example, I might have a top-secret security clearance, and I might have a need to know how a particular Chinese aircraft typically operates, and where they typically operate, and what its capabilities are. I need to know that information in order to fly my aircraft safely and to accomplish the mission. Same thing with Russian aircraft. When patrolling the Med (Mediterranean area of operations) we interacted with Russian aircraft quite often. I needed to know their tactics and capabilities. However, just because I have that top-secret clearance, it doesn’t mean that I need to know about a top-secret SEAL operation going on in Afghanistan. I acknowledge that I don’t need to know that information. That’s an acknowledgement that we all make when we serve. That same acknowledgement happens across the coalition. Just because we work together with other countries, it doesn’t mean that everyone shares everything they know with each other. The classified information and classified material control mechanisms that we have in place enable that, I think. You see it quite often during briefings, for example, when
certain coalition countries are allowed to attend certain parts of briefings, but not others. Nobody feels awkward, and nobody feels left out. It’s just normal.”

Ted described a similar example in the aviation domain: “I saw that more commonly when I was in Kuwait, where I had French officers working for me. And so, they weren’t allowed access to SIPR (Secret Internet Protocol Router Network). They had to use the NATO system. And so, to that we have an enterprise where you could send properly marked documents across the network. So, if you had something that was limited, we pushed, as the headquarters staff, to have everything as much as possible, disseminated at the right level. And so, if you had something, you could move that over through the network, through the enterprise, over to BICES (Battlefield Information Collection and Exploitation System).”

**Common Nomenclature**

Nomenclature means that the participants made specific references, to a common terminology for military units and personnel participating in combined operations and exercises. Participants occasionally referenced common nomenclature, but not within the context of a specific OL imperative. Most mentions of nomenclature or naming were mentioned in context with common tactics, techniques and procedures (TTPs), which is discussed in Finding 7. In addition, common nomenclature, while not always explicitly referenced, seems to be implicit or present in nearly every paragraph of every interview transcript. Common nomenclature was often mentioned by participants discussing common language or common tongue, indicating some overlapping perception of the two.

When talking about modern warfare elements, mission roles, and mission alignment, Jack said “it means the same thing to the Japanese and the South Koreans as it does to us.” Ted
explained how the situation is the same in the aviation community: “Everything in our world is standardized for NATO, so the communications, other than there being an accent that you’re maybe not used to, is actually pretty similar. The way we have communications standardized for close air support, for example.”

According to Ron, “It’s language. We all speak the same language. Having a single nomenclature matters more than having a single language. It happens in any organization, right? You evolve symbols and meanings that help everyone get on the same page with how things work. I can go from my aircraft to another aircraft in the squadron and integrate with the crew because we all use the same terminology for the way we fly the aircraft, how we operate, what to do in an emergency, and so on. And, more and more every year, the aviators these days can jump into a coalition country aircraft and do the same thing. They typically attend our schools, and they buy their aircraft from the same manufacturers, and those aircraft come with the same pubs. There’s always been a common nomenclature around NATO operations. Well, at least since World War II. But that’s been spreading out in recent decades. I think it probably doesn’t feel strange to interoperate with foreign country aviators like it did years ago when I started flying. I remember one day flying in the Med years ago and I watched a bunch of Russian sailors playing soccer on the deck of their ship. That’s nomenclature too, right? They were the adversary, but they acknowledged a particular rule set, I guess. A forward is a forward. Offsides is offsides. A goal is a goal. I remember thinking that we could probably fly with them that day because naval operations can’t really be all that different, even between adversaries, right? It’s still a brotherhood of sorts because we all have similar world experiences. We are the world, as Michael Jackson would say, right?”
The researcher has served as a military officer since 1988 but had a service gap of more than a decade between 1994 and 2005. Thus, the researcher has a unique view on how U.S. and partner country navies and coast guards communicated in the past late-Cold War era versus the current multinational era. During his service between 1988 and 1994, the researcher witnessed that the joint geographic combatant command structure that emerged in the post-World War II era, plus the establishment of NATO had resulted in a generally high level of common terminology amongst U.S. military forces themselves and between U.S. forces and NATO allies. That commonality was driven by the need for U.S. and NATO forces to work in partnership to counter the threat of Soviet encroachment in all regional geographies, and especially within the European area of operations. However, while NATO nations had developed a common nomenclature, non-NATO nations generally did not share that nomenclature.

Following the collapse of the Soviet Union, subsequent National Security Strategies by the Bush and Clinton administrations placed a significantly greater level of emphasis on security cooperation and partner-building outside the traditional NATO organization. NATO itself expanded from 12 to 29 members. In addition, a greater number of navies and coast guards have come together for multinational naval exercises such as the annual Rim of the Pacific (RIMPAC), and real-world operations such as Desert Storm in 1994, Operations Iraqi Freedom and Enduring Freedom and the Global War on Terror (GWOT) in the mid-2000s, ongoing counter-narcotics missions in Latin America and the Caribbean, and humanitarian assistance and disaster relief missions in Somalia, Indonesia, and Haiti. When the researcher returned to the military in 2005, the difference between how navies and coast guards interoperated in 1994 versus 2005 was profound. A far greater number of partner countries use common NATO nomenclature and understood a common set of tactics, techniques and procedures (TTPs).
Reflecting on the difference perceived between 1995 and 2005, the researcher likens the experience to the differences an anthropologist who studies a remote society before might find upon returning to that society after it has been thoroughly exposed to the external world.

Radio Communications

Radio communications means that the participants made specific references to the use of radios while engaged in combined operations and exercises. Those radios include a variety of frequencies, some dedicated solely to military operations, and other, such as VHF that are also used for communications with commercial vessels and shore stations. Participants referenced radio communications primarily when discussing ID. Yet, radio communications were implied within a significant percentage of other artifacts such as common language, nomenclature, and combined operations.

According to Kit, both bridge-to-bridge (VHF) and encrypted high-frequency radio-based communication drills supported ID. Sara also referred to radio communications within the context of ID and discussed Combined Task Force 150 (CTF-150), a multinational based in Bahrain responsible for maritime security operations in the Indian Ocean and Horn of Africa (HOA). CTF-50 has included naval forces from Australia, Canada, Denmark, France, Italy, India, Malaysia, Netherlands, New Zealand, Pakistan, Portugal, Japan, Germany, Singapore, Spain, Thailand and Turkey, the United Kingdom and the United States. Command of CTF-150 force rotates between the participating navies. When discussing ID, Kit emphasized that radio communications are a critical tool when vessels are operating within close proximity to one another and exchange information using bridge-to-bridge or encrypted radio communications. Sara agreed: “And on the radio via bridge to bridge. And it was usually during those maneuvering drills. When you're out executing the mission of 150, there's really not much
interaction between the navies. Everyone is kind of going out and doing the same orders. But when you're in close and maneuvering together that's when you have that exchange either over bridge to bridge or other secure communications.” Lang referenced radio communications while discussing CT: “As a SWO you are talking to these guys pretty regularly over the radio as well because you are operating alongside them, right?”

Lang twice mentioned radio communications within the context of OL overall and CT specifically, and that radio communications, combined with the use of English as a common language is the enabler. Ron said the same regarding operations between the U.S. EP-3J pilots and the British and Canadian pilots who flew Nimrod aircraft: “The radio is more important than the telephone because you are constantly exposed to communications between parties, and between coalition forces. Talking on the radio reinforces that we are on the same team. Using common terminology reinforces that we are on the same team. And as we talk together we learn how each other operates. I think there is also something about radio communications that builds camaraderie. When you are talking with other aviators who do the same job as you do, or a similar job, and you realize that you are flying different flags, but working toward the same goal, it builds that camaraderie. You also have a common adversary, whether that adversary is another country or a terrorist group, or even if you are working on HA/DR (humanitarian assistance/disaster relief). When we use terms such as ‘visual’ or ‘friendly’, it reinforces who is a friend and who is a foe. And again, it’s not just you who is communicating, and you never hang up the phone. You are constantly listening to conversations between aircraft, and between aviators from different countries, and you are constantly learning about one another, even if it’s not you that’s doing the talking. There’s a constant background noise. Except it’s not noise. It’s information. And, you can’t help but always be learning from that noise. When you’re flying it’s
like listening to a podcast or an audio book all day long. Some of the characters are inside your aircraft, and some are outside in other aircraft. I know how the Canadians fly because I have listened to them fly.”

Finding 4: OL is Enabled Through Organizational Elements and Concepts

Participants in the study described a category of OL-related artifacts focused on organizational elements and concepts. The organizational elements and concepts finding was supported by the following artifact groups: (a) *Organizational structures* are dedicated entities (e.g., schools, learning centers) and events (e.g., conferences, workgroups, etc.) that are intended to enable organizational learning between partner country maritime services. The European Union’s Maritime Security Centre – Horn of Africa (MSCHOA) is an example. MSCHOA enables countries to collectively learn how to prevent and respond to piracy attacks; (b) *Unified command* describes a common understanding that partner countries work in a combined command structure with representatives from multiple country maritime services present within the chain of command. The combined structure sometimes does and sometimes does not have a single country commander in charge; (c) *Vertical commonality* describes a common understanding of goals, objectives, strategy, capabilities, operations, tactics, etc., from top-to-bottom in a combined operational chain of command. In other words, the admiral’s desired end-state in a combined counter-drug operation is known and understood by a ship’s junior-most sailors.
Organization Structures

Organization structures describes references to departments, divisions, work groups, schools, conferences and other structures, that enable OL. Participants mentioned organization structures mostly in support of OL overall as well as the ID and EN imperatives.

In discussing ID, CT, LS, EM and EN, Carl described how a specific training organization was created by U.S. and coalition forces to help enable a developing country build their special operations security capabilities. The organization included Navy SEAL team members as well as special operations forces from all U.S. military services and coalition country services. The organization was not just a training command. Based on Carl’s description, it seems to have been constructed using the U.S. Army’s CALL (Center for Army Lessons Learned) model described in the literature review section of this study with the purpose of: (1) reviewing operational intentions, (2) analyzing actions and consequences, (3) capturing lessons learned and implications for future actions, and (4) applying the lessons learned.

Carl explained how the organization focused on training for specific operations, co-conducting those operations with the partner country, conducting after-action reports on the success of the operation, and regular reflective exercises on the effectiveness in the “schoolhouse” as it was affectionately called. According to Carl, “It was extremely parallel to how the U.S. forces fight. After-action reports, after-action reviews, and changes to counter the enemy, and in cooperation. Another thing I saw was getting authorization and approval for carry-on or modernizing equipment and incorporating that into the class, and that way always modernizing the force.”
While discussing LS, Ron emphasized that organizational structures are a greater enabler than technology-based learning systems. He said, “I think between partner navies, its less important to have that fancy knowledge system, and more important that we have the venues. The venues for knowledge-sharing. We don’t share everything on one big SharePoint system or anything like that. But we have common terminologies and tactics and equipment, all defined by NATO and in other doctrine. Plus, the schools where we train together are our ‘learning systems’. Yes, I’m making air quotes here for the recorder.”

Ron’s position was reinforced by Abe who described EN in an intelligence environment: “It’s really the partnerships that exist. So, for example, I was in London last year for annual training, and I got to meet people that were out at RAF (Royal Air Force) Fylingdales, and there is a big collaboration between the U.S. and British there. Also, Molesworth is an example where you have different organizations from different countries working together and officers from different services co-located together in a joint intelligence center.” Lang said conferences and symposia were enablers of CT and EM. He specifically mentioned the International Seapower Symposium conducted annually at the Naval War College in Newport, RI and attended by the top naval leadership from most countries that partner with the United States.

**Unified Command**

Unified command describes an organizational structure that brings together the commanders of multiple services into a single command in order conduct an operation or exercise. U.S. military forces typically combine to form joint commands under a single commander, which is often described as a “unity of command” concept. When U.S. and foreign military services join together while retaining their own country command structures, as they often do for humanitarian assistant and disaster relief purposes, the organization is often
described as a “unified command”. Participants mentioned unified command-related elements on four occasions. Three of those occasions were within the context of EM. While unified command was explicitly referenced only four times across all interviews, it does seem to be implicit or present in most references to combined operations and exercises. For example, Ron alluded to unified command while discussing CT and ID: “We all inquire and dialogue with the chain of command when they give us our mission orders, and we all inquire and whatever dialog during the debrief. When we fly together with partner countries, we do it all in one big group. That is the engine on how we improve as individuals and as a combined team. It happens at the squadron level, and also at the exercise level as well, with the upper echelons of the commands.”

Finding 3 described how need-to-know, rather than being described as a constraint, was discussed more as an acknowledgement that partner countries don’t need to share all information with one another. They just need to share enough information with one another. Unified command seems to be similarly perceived. Ted described how unified command supports EM. French forces “provide assets just as the U.S. does or any other coalition partner. And the CAOC (Combined Air Operations Center), aware of the assets and the limitations, will then provide your tasking order for the day. When I was in Kuwait, it was a little trickier because there were missions that the French, for example would undertake that were national priority, and so they would take assets out of the fight that we were expecting to have or they’d move their troops, not necessarily in support of the coalition agenda, but more in support of a national agenda. But, for the most part they were responding to the guidance listed by the higher headquarters, distributed by the higher headquarters.” In other words, similar to need-to-know, unified command puts a name to a norm that countries can share assets without losing ownership of those assets, alleviating the stress between partner countries. Most importantly, unified command means that
national chains of command are retained. Similar to need-to-know, participants view this as an enabling construct, describing the agreed parameters within which command and control (C2) can be established. Allied countries and military personnel generally acknowledge that they will only have partial tasking authority of another country’s forces.

Within the context of unified command, partner adaptability was generally implied, and largely within the context of CT and LS. For example, Ted described how French and British naval aviation services train with, and emulate U.S. naval aviation: “So, the French actually began their lives in U.S. naval aviation squadrons, in our training squadrons, and they go through advanced (Advanced Flight Training) with us. So, when working with a French aviator (he/she) actually probably knows many, many Americans from his time training in the States. Brits, you don't see that as much, although when I was an instructor, we were instructing quite a few British personnel to fly the F-18s just because they have no fighters of their own at the moment until the Joint Strike Fighter. And so, you have people working. My friend who is a Royal Navy officer, a Top Gun Beret, which, he's (one of) the only four Top Gun Berets ever, (and he) did something to the effect of eight or nine years in the U.S. Navy. So as far as training goes, (when) you generally have people like that, it makes it a lot easier to interact because they'll tell their counterparts if there are any differences, (and) what they can expect. And we've seen how they do things by working with them very closely.”

More importantly, when participants mentioned partner adaptability, they implied a double-edged sword element at play. Partner countries tend to adapt to the way the U.S. operates, but they may or may not do so grudgingly. Yet, partner adaptability is an enabler of OL. When discussing CT, Jack described partner adaptability as a bit more of a one-way street, emphasizing the adaptability of the Japanese naval forces: “So, they want to work with us and, from my
experience, they adapt much more to work with us than we’re willing to work with them if that makes sense. So, I think a large portion of why it works so well is we’re willing to train and show them how we do it, and they’re willing to adapt to work with our changes. I mean, there are very few times that I’ve adapted what I’ve done.”

Unified command also seems to include an acknowledged understanding that different countries do not have exactly the same common interests at all times, and therefore require flexibility regarding rules of engagement (ROE). Ted described his experience with NATO naval air operations: “It's going to depend on the willingness of the country and what they're allowed to do, authorized to do. Some countries will have caveats to the rules, but they'll be more restrictive on what they can or can't do. And that's just something you have to work with and that's generally a limitation for your component commander. So, for myself when I mentioned that, that is from my real life. And it didn't have to do with who I was flying with, it had to do with who I was supporting. So, it wasn't necessarily even a day-to-day thing, it could be a minute-to-minute thing. If there were U.S. troops on the ground, I was using U.S. rules of engagement. If there were U.S. troops on the ground but they were receiving support from a NATO coalition aircraft, then the NATO coalition aircraft was going to use the rules of engagement the least restrictive they could that's probably going to be at least NATO, if not with individual county caveats. If I were flying and I were supporting non-U.S., whether that'd be the Iraqis or the Afghans, or our NATO troops, then I was restricted to NATO rules of engagement. So, I could be working with the first cycle of my vulnerability window, I could be working with U.S. troops using U.S. rules of engagement, and since I had the tanker and hit my next role, I could be working with, I worked with Poles quite a bit, so now I'm back to NATO. Obviously, every nation has its own agenda and its own interests, so prior to involving in an operation, whether
OIR (Operation Inherent Resolve against the Islamic State) or Odyssey Dawn, they're going to
determine what they're willing to provide for support.”

_The researcher recently participated in a war game between U.S. maritime forces and
maritime forces from an Asia Pacific partner country and saw the opposite of what Jack
describes. In this case, U.S. navy personnel deviated from their documented tactics, techniques
and procedures (TTPs) in order to adapt to the partner country’s TTPs. That adaptation
occurred from the bottom-most echelons of the command where daily air operations plans were
developed, and all the way up to the top-most echelon where U.S. flag-level officers adjusted
U.S. national decision-making processes and rules of engagement in order to fit into the partner
country’s legal use-of-force constraints._

**Vertical Commonality**

Vertical commonality describes a common understanding of goals, objectives, strategy,
capabilities, operations, tactics, etc., vertically from top-to-bottom in a chain of command. Kit
explained how communications are typically cascaded top-to-bottom aboard ship: “Every Friday,
the captain held a captain's call for the entire crew not on watch, of course. So, he would tell the
crew what was going to happen during these exercises in the middle of deployment, and
emphasize the importance of still being on deployment, but kind of taking a break from the
routine to interact with other nations. And the second way were ordering briefs, because for
every event we executed we would have a brief for it. So just by having a brief for the event, that
emphasized the importance of it. And then three, we just had informal conversations in the
wardroom about what was going to happen and how the captain, the XO and department heads
visualized the important aspects of standing watch and performing well during the evolution, so
that we can not only lead as the United States but also look good doing it also.”
While discussing CL, Jack explained that the vertical communication concurrently moved horizontally. He explained that during minesweeping exercises with Japanese naval forces, collaboration was exemplified at the top of the command by fleet and flag-level commanders, emulated at the ship command level by the U.S. and Japanese ship captains, and emulated again by the department-level and division-level officers of both countries. Kit echoed Jack’s comments and described how briefings occurred at each level of each command, from the commanding officers to the executive officers and department heads. Ron described a similar model in the aviation community through briefings at the squadron level and in the “upper echelons of the commands.” Kit explained, “The French flyers and the American flyers see that our bosses actually like each other and respect each other, and have fun doing the whole thing. So, we or I any way have something to copy. I think we all do that really. But yes, top down matters. And I think you see in all our strategy documents that we emphasize partnering. That’s been an emphasis in every administration, and I’ve been serving under quite a few.”

According to Ron, “partner country chains of command stay in synch pretty easily, really. First of all, the military chain of command is almost always excellent at pushing information from top to bottom. Whether it’s through briefings, memos, the plan-of-the-day, morning quarters, staff meetings, or whatever, the information usually cascades down pretty effectively. Unless you have a bad leader or two at the department or division levels. But that doesn’t really happen too much. And, for the most part information flows upwards via those same mechanisms. From my experience, the military services of all countries tend to have those same mechanisms. So, military services in general communicate well up and down. Vertically. From a horizontal perspective, pretty much every exercise and every operation have what we call an operational battle rhythm. The battle rhythm is often posted on the wall in the JOC (joint operations center)
or MOC (maritime operations center), and it shows all of the operational briefings and meetings that occur between the different command echelons throughout a 24-hour period. And, each of those meetings and briefings will be attended by members of all coalition countries. The senior-level briefings will usually be conducted by videoconference, and you’ll actually see all of the faces of the country commanders on the screen. So, everyone knows who’s who. As the battle rhythm progresses through the day, the next echelon briefings and meetings occur. The J2 meeting, the J3, etc. The targeting cell and so on. The whole process is documented in the joint operations pubs. Navy and all officers train on those pubs during JPME (Joint Professional Military Education), and then apply what they learned during war games, exercises and during real world ops. So, long story short, all day long, you are participating in meetings with coalition partners who are generally at or near your same rank, and basically in your same department or division within the coalition country’s navy.”

The researcher believes vertical commonality was an understated artifact in the study. As a 20-year management consultant, the researcher has observed multiple organizations where senior leadership and employees were disconnected in their perceptions of the organization’s mission, objectives, capabilities, etc. That disconnect is significantly less present in military organizations where members are legally bound to follow orders, and where senior leadership’s actions, words and behaviors are “uniformly” emulated by junior personnel. To be specific, the researcher has observed admirals and generals demonstrate ID especially in the presence of their personnel, and those personnel emulated or mirrored those behaviors in their respective command echelons. The researcher believes vertical commonality plays a significant role in OL. However, because it is a deeply ingrained and taken-for-granted element of the culture, it was
less espoused by participants in the study. The researcher believes this is a potential area for further study.

Finding 5: OL is Enabled Through Human Relationships

Participants described a category of artifacts related to human relationships. The human relationships finding was supported by the following artifact groups: (a) Common interest describes perceived common maritime security-related wants and needs between U.S. and partner countries and their maritime services and personnel. For example, all countries desire secure sea lanes so that commercial shipping can have access to their ports, and all naval officers and sailors have a common interest in shipboard safety; (b) Personal relationships between U.S. and partner country maritime services personnel. Personal relationships include an element of equality, which is a perceived deemphasis of military rank and status, at the individual-level and between partner countries writ large, and increased emphasis on contribution rather than status during multinational operations and exercises; (c) Trust between U.S. and partner country maritime services and personnel as evidenced in delegated and decentralized command and control structures. Along with the communicative activities theme, the relationships theme had the second most often-mentioned artifacts in the study.

Common Interest

Common interest describes occasions when participants either specifically used the phrase “common interest” or implied that having common needs, wants, goals, objectives, etc., was an enabler of OL or one of the OL imperatives. Participants mentioned having common interest with their foreign counterparts largely when discussing OL overall and EN.
When discussing SL, Lex explained, “Regional collaboration is often a realistic aim, with strategic shared visions and goals that regional naval leaders can support. There are always contentious issues and conflicts within a region, but there is natural collective national interest in regional security and economic prosperity.” While Lex’s point of view sounds like the wisdom of a more senior officer, Jack, a junior officer had a similar view: “With the maritime environment, we all have an interest in protecting the maritime routes for everybody. Common interest is probably the best way to say it.”

According to York, “I saw navies work well together when I was in an area where we all had the same objective. I worked at USCENTCOM (U.S. Central Command) in Tampa as a part of the intelligence directorate. Several members of various country’s navies were there as representatives of their country and their branch of service. There was a chain of command in place and that everyone knew what their job was in this chain of command. The navies worked in cooperation because the countries became transparent. We were all fighting one commonality (international terrorism). This factor and the factor that one group did not always command created transparency and effectiveness. This translated itself not only for the active command components, but, also included the reserve component where high level commanders from foreign countries are involved in the chain of command of the reserve assets which has never occurred before. The joint operations center or joint intelligence and operations center is created for that very thing. Plus, the battle rhythm of briefings, working groups, etc., that happens within the JOC (joint operations center), JIC (joint intelligence center) or JIOC (joint intelligence and operations center).”

Reflecting on experiences with CT and OL overall, Sara explained “Well, I think first of all you need to have a common goal, common interest. The member nations of CTF-152 all have
vested interest in maritime security in the Arabian Gulf. Lots of threats in there, both from smuggling to the Iranian threat, to any kind of instability you can think of. And especially for the lesser capable nations, they want to build that autonomous capability. So, common goal. Everybody goes out and does and knows what they’re supposed to do. So that you don’t need tight command and control. So, it sounds like one of the success factors is maybe you’re not trying to command and control this thing and make everybody steam in formation, and all of that. It’s a delegatory model. And everyone has the same reporting metrics.” While discussing EM, Carl emphasized that having a common definition of success or common goal was crucial, and that the goal must be defined collectively, and not by the United States.

The study did not set out to study equality, and no questions or probing questions were asked with an intention to elicit conversations regarding equality. Yet, equality was either explicitly or implicitly mentioned multiple times, largely within the context of EM and EN, and usually when discussing common interest and personal relationships. Most of those occurrences came from Jack’s interview. He explained that when partner navies conduct operations or exercises together, rank plays a lesser role. “When we’re trying to get the mission done, it doesn’t matter if it’s an admiral in the Korean Navy or the Moroccan Navy, or a commander in the Japanese Self-Defense Force. ‘We all have one mission. What are your ideas? These are my ideas. Let’s talk through it and figure out what the best options are to get this solved.’” When discussing EN, Jack recounted working alongside a Japanese admiral and a South Korean admiral during a tabletop exercise: “Rank disappeared, and it quickly turned into ‘We’re one team. How do we get this done?’”

Lex sees opportunity for improvement on the U.S. side: “Empowerment presumes one party is granting increased power to another party through its actions or inactions. Our naval and
coast guard partners around the world would likely reject this term and notion as demeaning. I believe our partners seek distinct but fused levels of respect vice empowerment. Our maritime partners seek international and unconditional customary military respect as the combat and security protectors of their sovereign existence. We fumble this basic football in many small countries around the world. Understandably our foreign military assistance and theater engagement resources are rightly prioritized toward countries that influence our direct national interests. However, the non-lethal less significant naval partners of today sometimes suddenly become our best new friend when complex conflict and modern terrorism arises in a blind spot. Continuing what I was saying a moment ago, our naval partners seek a higher level of relative respect unique to each relationship. Although we assess and analyze militaries to a micro level, we often miss the subtle strategic significance or leverage of our naval partners. Partner access and partner asymmetrics are key differentiators that we are challenged to recognize and respect from our high perch of massive capability and capacity.”

The researcher has participated in combined operations and exercises in the U.S., Middle East, and European commands, and agrees with Jack. Conversation often does occur more freely between officers of different ranks and different countries than it does between officers of different ranks from the same country. The phenomenon is worthy of additional study and may stem from a practice at U.S. senior military schools and war colleges, including the U.S. Naval War College, where senior and junior officers alike wear civilian clothes during the school day with the specific purpose of breaking down barriers to collaboration.

Personal Relationships

Personal relationships were described as an important element of OL, especially regarding EM and SL. While explaining EM and CT, Kit described working together as a “very
lighthearted and exciting experience for everyone.” He noted the absence of tension during communications between partner country personnel, and he recalled “excitement” when they were engaged in radio communications. He also noted that after exercise debriefings, the American, Italian and German officers then “just talked personal.” Carl related personal relationships to EM: “I think more important is that personal level. It’s almost that friendship that you start to develop and you actually can see how you’re going to get there with that person or that group of guys, or gals, or what have you.”

When discussing SL, aviator Ron explained, “You see it every time at the beginning of an exercise. The top guys demonstrate solidarity, and they stand up there together, showing how they are having effective and friendly dialogue with each other. Country to country. That gives us something to emulate, I think.” Ted, also an aviator, pointed out that many French aviators “began their lives” in U.S. Navy aviation training squadrons, and therefore have “many, many” personal relationships with their U.S. counterparts. He described working with the Australian aviators as well. Lex also discussed personal relationships within the context of SL: “At the theater operational level, I’ve observed great leaders shape regional collaboration through patient relationship building and commonsense objectives. Collaboration only moves at the pace of real relationships and only achieves objectives that are rational and reasonable.”

Kit reflected on his awareness that the communications between partner navies were human interactions: “You would notice that it was a very cooperative exercise and interaction. Not only for VBSS but also when we were doing ship maneuvering drills and doing voice communication drills observers would see that as, it was a very lighthearted and exciting experience for everyone. There was no tension. It was a learning experience for all. Much of the tones of the voices I heard on the communications circuits were excited and sometimes a little
too excited. And at times we couldn't understand each other but it's fine because that was the whole point of the exercise, was to learn each other's accents, learn each other's mannerisms on the voice circuits, learn how to interpret what others were saying and translate it into your own community's language so that you can all execute the same maneuvers.”

Jack emphasized the value of personal relationship-building by living day-to-day in a partner country. His commanding officer had lived in Japan for repeated tours of duty spanning 15 years in the Asia-Pacific area of operations. “So, he had a very good understanding of what was expected with him and a good cultural grasp for the cultural issues that exist between them. So, I looked to him for a lot of that guidance. He was also directly responsible for what I was doing. How did he learn the culture? Well, by living. By being there repeatedly. I think he'd been stationed there five times.”

Jack’s ship was also co-located with Japanese naval vessels. “So, Sasebo, which is where I was stationed, the Japanese Navy, their largest portion of their navy is in Sasebo. And we share piers with them. So, although I'm on this pier, they're just across the water from them. And I've actually toured their ships. They're more than happy to walk you through. Likewise, they bring their young JOs (junior officers) over to us. And I've walked them through when I was on duty, and just trying to get that, there's places I can't get them into. But I know what their combat system is looking like. I know how it's oriented. So, when I'm working with them in a combat, tactical environment, I understand, for example, the chat is directly next to my GCCS (Global Command and Control System) laptop, which is directly next to my feed of my minesweeping data. Theirs is not. One's here. One's at the other side of the room. It's two separate people. So, I need to understand that, when I'm in there, those are the kind of things we talk about so that I know, hey, if I send this to GCCS, they won't necessarily, then I'm not necessarily talking to the
person I would expect to be talking to in the Navy on the US Navy side. I need to send that through a different system if I want to talk to that specific person.”

The researcher deployed to the Middle East in 2010 and worked alongside officers with different leadership styles and in different geographies. One of the researcher’s specific roles was to assess relationships between U.S. and partner country personnel. One finding that the researcher observed and reported was that the highest performing multinational teams were those that socialized with one another outside of their duty hours. For example, a combined U.S., Canadian and French workgroup in Afghanistan socialized with each other during off duty hours, and had a very good reputation for planning unmanned aerial vehicle (UAV) operations in an Afghanistan province. Their camaraderie and connectedness could be observed in the regional operations center. In another regional operations center, a team comprised of U.S. and other country coalition officers did not socialize with one another, and did not have a reputation as an “A-Team”. This was a single anecdotal case. However, the researcher believes further follow-on studies would likely show a correlation.

Trust

Trust between countries was the fifth most often-mentioned artifact group. Most references were made within the contexts of EM, CT and EN. Ike connected trust with face-to-face interactions (described previously in Finding 2). He explained how U.S. landing signals officers (LSOs) traveled to Brazil to work in-person with pilots aboard the Brazilian aircraft carrier. He described it as a trust-building activity since the Brazilian pilots would be dependent on the American LSOs when landing their aircraft on the U.S. carrier.
When discussing EM, Ike also explained how face-to-face time between U.S. and Thai pilots simultaneously increased the self-confidence of the Thai pilots and increased the U.S. pilots’ trust in the Thai pilots: “While based on the Kitty Hawk I had an opportunity to leave the ship for a few days to fly with the Thai Air Force from Korat Air Base. We flew both integrated flights and large force exercises where they had opportunities to attack the carrier battle group with their F-16 fighters. The Thai pilots were skilled and the influence of their training with U.S. forces in the past was evident. They were excited to have the chance to work with and observe the U.S. forces and we saw their confidence increase as we had more time together. It was beneficial for both sides and empowering to them to have this opportunity to demonstrate their skills to our pilots.”

Carl discussed trust as it related to CL, EM, EN and SL in the special warfare domain. U.S. Navy SEAL and coalition forces maintained a train and trust mentality when preparing Afghan special forces. As the Afghans developed their capabilities, they inevitably made mistakes. Carl emphasized, “If we’re not giving them the runway, the space to maneuver, the sophistication of intelligence, or the movement, that’s demoralizing.” In fact, in the Afghan “schoolhouse” (interviewee made quotes with his hands), the most capable troops (U.S. troops) did not train the Afghani troops at all. The Afghani troops were trained by other coalition countries. “They were trained by the French, and the Polish, and the Austrians, and the Estonians, and the Latvians and Romanians. And to a very high degree.” Through training, the Afghan special operations forces became trusted enough to ultimately deploy with the SEALs and other U.S. special warfare operators. The U.S. forces purposefully set a high bar for the Afghan forces to earn the trust of the coalition forces, and especially the U.S. SEALs. However, once the Afghan troops earned that trust, the trust always remained, even when mistakes were
inevitably made. “There was an actual time where conventional Afghan Army forces or security forces were failing, especially in the south and north. And a political move to use commandos and special forces as security forces was attempted to be used, but it was pushed back upon, which was great to see. Both by, obviously, the US, at my command, the CG, the Commanding General, did not want to see that. I think it's always the personal relationships of those that are tasked with working together. I've always recognized that. That if you can get along personally with the people that are in the same room worth you, or the same ship with you, or whatever, I've always found that to be one of the most important things. You have to be able to personally understand each other and get along and see what motivates and what's important to the others. If I was working with Polish FORMOZA (Jednostka Wojskowa Formoza - Poland’s naval special operations unit) or Polish GROM (Jednostka Wojskowa – Poland’s Counterterrorism Unit), they have their perspectives on how everything should be. You have your perspectives. And as long as you can kind of mesh an agreement out, I think that's what's actually important. Commonality, getting the same vectors for goal's success and defining what that is.”

When discussing EM, Ron explained “We live in a culture of delegated authority. I am trusted to run the mission when we are in the air. The maintainers are trusted to maintain my aircraft. And that cuts across services. If I am flying with the French guys, my counterpart on the French aircraft knows his role. And in our culture, he knows he can give me honest feedback at the end of the day, and I can do the same.” In other words, Ron points out the connection between trust and after-action reporting, mentioned in Finding 2. Ron continued to explain trust: “Well, I can speak for the aviation community mostly. Trust is inherent in what we do. Every time you fly, you are trusting the other guys in the aircraft to do their job. That extends to your wingman and the other aircraft operating with you. Every time you fly a mission, and every time
you work successfully with one another it reinforces that you trust one another. I think that happens in the micro-sense as you fly alongside other Americans, and it happens in the macro-sense when you fly alongside coalition flyers and coalition services in general. It happened for me. The more I flew with a crewmember, the more I became familiar with how that person worked, and the more I trusted them. Did we have the same level of trust with all of our coalition partners in the days before OEF (Operation Enduring Freedom) and OIF (Operation Iraqi Freedom)? Probably not. But as we work together, we build trust with one another. When people and organizations trust one another, they learn from one another. And the more they learn from one another, they more they trust one another.”

Regarding EM, Lang explained, “Our leaders show trust in our sailors, and soldiers and airmen too, by delegating authority. Some countries are a lot more command and control-oriented. They tend to delegate authority less than we do. Especially in some countries. But, when they see the way we delegate authority, they emulate what we do, and it helps them plug and play into our operations.” York also discussed trust within the context of EM, explaining how rotating leaders from different countries through the leadership positions of coalition commands such as Combined Task Forces (CTFs) 150, 151 and 152, builds trust between the personnel at all levels in the chain of command.

_The researcher had similar experiences working for a year in the Combined Air Operations Center (CAOC) in Qatar, working alongside aviators and intelligence officers from the United Kingdom, France, Canada, Australia, New Zealand, Germany, and Poland. Command of the CAOC rotated between U.S., U.K. and Australian commanding officers. The CAOC commanders demonstrated trust in the partner countries in the words they spoke on a daily basis, during briefings and other events. Leadership never explicitly or implicitly pointed_
fingers at coalition partners. They consistently used language that described shared successes
and shared opportunities for improvement. That tone cascaded down to the lower echelons in the
command and resulted in only positive and constructive interactions between countries.

Finding 6: OL is Enabled Through Technology

Participants described a category of artifacts related to technology. The technology
finding was supported by the following artifact groups: (a) Common Operating Picture (COP)
which describes specific references to the COP, also known as the Global Command and Control
– Maritime (GCCS-M) system used by U.S. and partner country maritime services; (b) Common
platforms, including ships, aircraft, simulators, and training systems and applications used by
both U.S. and partner country navies and coast guards; (c) Common networks, which describe the
common information technology networks used to integrate U.S. and partner country maritime
services information systems. The Combined Enterprise Regional Information Exchange System
(CENTRIXS) and the Battlefield Information Collection and Exploitation System (BICES) are
two examples.

Common Operating Picture

While common operating picture was mentioned by name only five times, and mostly
within the context of LS, it was implicit in multiple mentions of combined operations, exercises,
and TTPs. All U.S. military services and the military services of most western countries
commonly use the term common operating picture, or COP. The COP often refers to the system
which provides a video display of an operating environment. In the U.S. and NATO countries the
COP is the Global Command and Control System (GCCS, pronounced “geeks”). Operating
forces use different versions of GCCS. For example, joint and combined ground and air forces
use GCCS-J (joint). Combined maritime forces use GCCS-M. A GCCS-M video screen can be seen in the combat information center (CIC) of every U.S. warship and shore-based joint operations center (JOC), and in the CICs of most major country partner warships. A GCCS workstation is a geographic information system (GIS), and includes a base map layer that displays an operating area (AO) and multiple data layers that show operational areas, friendly forces, adversary forces, neutral forces, etc. using map icons and shapes. U.S. forces have historically been portrayed using blue icons, allies as green icons, adversaries as red and less friendly forces as orange.

Along with describing a specific system, COP can also describe a common understanding and situational awareness of an operational or tactical environment. In other words, when one sailor says to another, we need to have a common operating picture, it does not necessarily mean that they need a GCCSs workstation. It may mean that they simply need to have a common picture of where friendly and adversary assets are located.

When discussing LS and surface warfare, Jack explained that the COP “plays a pretty large role when you’re working with the allied countries.” Abe explained the importance of the COP for coordinating intelligence, surveillance and reconnaissance (ISR) missions with the British Navy. Ron said the same for aviation: “Well, we do have a common system for what we call a COP or common operating picture. That gives everyone a single view of what’s going on in the air space, or battle space.” Ted also believes the COP supports EM in the aviation domain by providing literally a graphical vision of a combined operation or exercise.

Abe agreed when discussing CT: “I think you need to start with a bit of commonality in terms of command and control. We shared a system to be able to do that. And I think that's very
important to have baseline commonalities that your systems interact at least on a basic level, and we had that capability. So, I’m going to try to stay at the appropriate (security clearance) level here. As I mentioned earlier, I think a big part of that is having systems. We talk to each other. So, you're operating at least at a base level of understanding in terms of the common operational picture. If we have different systems that aren't talking to each other, I think that can be very difficult for command and control. So, at the basic level, I think you need to have basic systems that talk to each other, and we had that on our vessels. So, it's a matter of the planning beforehand to make sure that we have the systems up and running and talking to each other. And knowledge of the of the COP. GCCS-M almost certainly is the baseline.”

In most cases, the COP is the topic of discussion, or at least the backdrop for conversation during operational briefings, pre-briefings, and after-action report sessions. When partner country navies and coast guards are operating or exercising together, the place where they most often “see” each other is on the COP. The COP is a constant visual reminder that they are operating or exercising in partnership with another country or multiple other countries. Organizational theorists such as Lewin (1947) and Schein (1984, 2010) might suggest that, because the U.S. and partner country forces are generally portrayed in GCCS using blue and green icons (they sometimes switch based on which country is the operationally “supported” versus “supporting” country), and adversaries are portrayed as red and orange, the system reinforces or “freezes” who is friend and who is foe. Lewin and Schein might argue that, while the colors are intuitively helpful for combined operations, they contribute to freezing adversaries as adversaries, which in the long term, is detrimental to what should be our bigger objectives of regional and world peace.
Common Platforms

Participants explicitly mentioned common technology platforms a small number of times without specifically referring to the COP or common networks, and mostly within LS. Ike mentioned common platforms within the context of LS in the aviation environment. He said “U.S. services and many of the partner nations share learning systems for basic aircraft operations and the use of weapons systems that include interactive courseware, desktop simulators and high-fidelity trainers.” According to Ike, pilots from partner nations are increasingly flying the same aircraft and training with the same courseware and simulators. For example, the joint strike fighter was jointly developed for use by the United States and multiple naval air forces, including the United Kingdom, Italy, the Netherlands, Canada, Turkey, Australia, Norway and Denmark. Referring to the new F-35 Joint Strike Fighter, Ike said, “This will be a step beyond training with a partner nation in a similar aircraft. Now, pilots from different partner nations will fly the same aircraft and will have trained with the same courseware and simulators. The potential for closer collaboration and more closely integrated training is exciting.” Ted also mentioned the joint strike fighter and as a common platform that will contribute to the improvement of CL between partner countries.

Ron suggested that members of the military services might think about learning systems as something bigger than SharePoint and other knowledge management systems and social media applications that predominate in civilian organizations, and that common terminologies tactics and equipment, all defined by NATO, is more important than having common knowledge-sharing platforms.

Ron posited that, in the military services, common operational platforms and NATO-based tactics are more important for OL than the knowledge management systems that
commercial sector organizations develop to support OL and competitive advantage. He stated, “We don’t share everything on one big SharePoint system or anything like that.” The researcher’s experience and the literature review do not support Ron’s point of view on this topic. Like every other modern organization, all fleet organizations, all task forces, ships, squadrons, etc., rely on internet and intranet-based systems to share knowledge. Some of those organizations do use Microsoft SharePoint, Facebook and other leading knowledge management and social media applications for the purposes of knowledge-creation and sharing. For example, when improvised explosive devices (IEDs) began to take a significant toll on U.S. forces in Iraq and Afghanistan in the mid-2000s, the Department of Defense’s Joint Improvised Explosive Device Defeat Organization (JIEDDO) was created as a combat support organization. JIEDDO (now JIDO - the Joint Improvised-Threat Defeat Organization) developed a intranet-based knowledge portal for U.S. and partner forces to share lessons-learned regarding IED detection and countermeasures. The platform also included a section for maritime vessel-borne IEDs. Similarly, during the period of heightened counter-piracy operations in the mid-2010s, U.S. and partner country navies and coast guards operating in the Horn of Africa (HOA) and Gulf of Aden used a common knowledge-sharing platform to identify, categorize and report on dhow traffic in areas prone to piracy. Merchant shipping companies participated in the program as well through the NATO Shipping Centre (NSC) and the European Union’s Maritime Security Centre (MSC-HOA). More than likely, Ron was overstating a valid point that he was trying to make – That commonalities between U.S. and partner country military organizations are largely driven by common operating platforms such as ships, aircraft, weapons systems, communications systems, sensor systems, etc.
While participants explicitly mentioned common platforms only a handful of times they implicitly referred to common platforms more often. Common radio systems were a good example. Radio communications were mentioned seven times, and Lang, for example mentioned common radio systems at the same time that he mentioned common language (English), common nomenclatures, common tactics, techniques and procedures (TTPs), and common training schools. More importantly, seven of the participants reported serving aboard classes of ships, or flying aircraft types that are also operated by partner countries. For example, the Japanese Maritime Defense Force’s Kongo-class guided missile destroyer design is based on the U.S.’s Arleigh Burke-class vessel, and has the same AEGIS air defense radar system. And, the F-18 Hornet fighter is flown not only by the U.S. Navy, but also by Australian, Canadian, Kuwaiti, and Malaysian forces.

Networks

Common networks were mentioned largely within the context of LS and CT. In a non-military environment, information-sharing via the internet or intranet is largely taken for granted. All organizations have access to the internet, intranets and social media. Information-sharing between military organizations, however, must overcome the barrier of classified information control. Similar to what was discussed previously in the need-to-know section, one might have expected security classifications to have been described by the participants as barriers to OL. On the contrary, participants seemed to have a glass-half-full perspective. U.S. and partner country military organizations maintain, secure, and appropriately share sensitive and nationally classified information through a specific network architecture known as the Combined Enterprise Regional Information Exchange System (CENTRIXS). CENTRIXS is a collection of classified networks, called enclaves, that enable partner countries to share information through email, web
services, instant messaging, chat, the Common Operational Picture (COP), and voice over internet protocol (VOIP). Two of the CENTRIXS enclaves are bi-lateral. CENTRIXS-JPN connects U.S. and Japanese forces. CENTRIXS-K connects U.S. and Republic of Korea (ROK) forces. Other CENTRIXS enclaves are constructed around specific communities of interest. For example, CENTRIXS Cooperative Maritime Forces Pacific supports U.S., Australia, Japan, Singapore, India, Korea and other Asia-Pacific area navies and coast guards.

Jack explained CENTRIXS within LS as critical for combined minesweeping operations between U.S. and Japanese maritime forces. He emphasized that, without CENTRIXS, the GCCS (Global Command and Control) COP would have no secure network on which to reside. The COP cannot reside on the world wide web because it would be too difficult to secure from intrusion and disruption by the adversaries that it is intended to counter. It cannot reside on either country’s own secure network because it contains both information that must be shared between partners, and information that legally cannot be shared with non-national parties. Thus, the COP requires its own network. Abe echoed Jack’s comments when discussing both CL and LS and annual exercises between U.S. and British Naval forces in the Middle East, and Lang discussed the importance of CENTRIX for supporting LS between U.S., Malaysian and other partner countries in the Asia-Pacific region.

Ted said the same for the aviation domain. CENTRIXS was the backbone by which U.S. and French aviators were able to share mission planning and after-action reporting information in the Combined Air Operations Center (CAOC) in Qatar. He emphasized the importance of the BICES-X (Battlefield Information Collection and Exploitation Systems Extended) network as well. BICES-X is the network for U.S. military services to disseminate intelligence deemed releasable to partner countries.
Lang believes networks play an important partnership-building role: “We use a variety of web-based platforms to share knowledge with all of our country partners. What we share depends on who they are. And there’s probably an incentive there for partner countries to get closer to us, because the closer they get, the more we share. For example, if you are a NATO country or five-eyes country, you get to see a very significant amount of information about our force laydowns, operations, plans and other stuff.”

**Finding 7: OL is Enabled Through Formal and Informal Training and Education**

Participants described a category of artifacts related to training and education. The training and education finding included the following artifact groups: (a) *Military education*, including common joint military higher education programs (e.g., the U.S. Naval War College) attended by U.S. and partner country military officers; (b) *Formal training* which includes structured and scheduled shoreside technical and operational training programs (e.g., Navy SEAL training program) generally located at U.S. military installations, and attended by U.S. and partner country maritime service members, both officers and enlisted; (c) *On-the-job training* conducted either formally or informally by U.S. forces or between U.S. and partner country maritime services while operating together, typically at sea.

**Military Education**

Military education was referenced relatively evenly across OL overall and the seven imperatives. Military education refers to officer-level military training. When referencing military education, the participants were generally describing programs at the Naval War College, Naval Postgraduate School, Army War College, National Defense University, National Intelligence University, etc. U.S. Navy and Coast Guard officers typically attend these programs
as part of their Joint Professional Military Education I (JPME-1) requirement early in their career as a lieutenant or lieutenant commander, or as part of their JPME-2 requirement later in their career as a commander or captain. Most of the U.S. military education programs include participants from partner countries both large and small. Students usually attend the programs in civilian attire with the specific intention to deemphasize both rank and country affiliation.

Regarding OL overall, Lang pointed out, “They’ve attended U.S. Navy service schools and our command and staff schools at the war colleges. So, they understand our terminology too.” Regarding SL he explained, “That’s ingrained in what we do. You completed JPME-1. You completed the Strategy of War course, right? I’ll point back to the Naval War College here. We have quite a good percentage of our, I guess, our partner countries that send their officers, both their senior officers and some of their junior officers to Newport. They learn to strategize the way we strategize, and they learn the content of our strategy as well. But I would say that we also have non-operational venues where we collaborate. For example, the International Maritime Symposium at the War College and in similar events we have out in the fleets on a regular basis.”

Lex agreed with Lang. When explaining CL, he said, “The academic environment is an ideal melting pot of intellect, experience and views. During my experience at the Naval War College, I most enjoyed the opportunity to learn with our international naval officers. One of my favorite elective seminars included a USAF bomber pilot, an Israeli Naval SOF officer, an Indian naval ship XO, a USA tank commander, and a US Coast Guard ship CO. We each had personal mastery of our respective military combat arms fields. We each had a shared academic systematic approach to issues, that raised our individual talent and intellect to higher level.”
Some of the references to military education described experiences at the military academies and during Naval Reserve Officers’ Training Corps (NROTC). When explaining EN, Kit said “Most of the importance of working with foreign nations came out of my senior level ROTC courses in classes like leadership and ethics. And there were little bits and pieces too in some of my more junior level NROTC classes where it was emphasized that this doesn’t only apply to us. The foreign nations use some of these techniques as well. As well as use some of these weapons. And oftentimes we sell assets to other nations, so most of our TTPs would be similar in nature and we never stopped training with ourselves and others.”

_The researcher attended both the Naval War College and the National Intelligence University. The relationships made with foreign navy counterparts last well-beyond graduation day. More importantly, when officers meet their foreign counterparts – For example, a U.S. Gunnery Officer and a Japanese Gunnery Officer – during combined operations or exercises, if they do not already know their counterpart as a former war college classmate (which does happen occasionally), they often have mutual acquaintances from the war colleges, which reinforces practitioners’ bonds with officers from other countries._

**Formal Training**

Formal training describes the skills-based courses typically attended by enlisted personnel and some junior officers for training in their specific specialties and job assignments. Formal training programs were referenced mostly within the contexts of OL overall and CL. When discussing OL, CL, CT, LS and SL, Ike discussed air-to-air training that included both U.S. and South Korean air forces and naval air forces. He explained, “As a new pilot in the squadron I was impressed with the amount of training opportunities that existed with foreign forces. South Korea in particular was a place where Japan based crews needed local corporate
knowledge on threats and geography.” Regarding LS, Ike explained how Lockheed Martin representatives conducted conferences around the world to train and qualify U.S. and partner country aviators on the new F-35 aircraft. Ike also described his time training alongside the Brazilian aviators: “Back in Texas the Brazilian students went through the same syllabus as their American counterparts. In addition to learning to fly around the aircraft carrier they learned formation flying, bombing and air combat maneuvering along with our own students. It was clear that the Brazilians had chosen top notch individuals for this assignment. They were hard-working, well-respected students and integrated closely with the American students, in many cases forming close friendships that would last even after their return to Brazil. The aircraft carrier Sao Paulo served in the Brazilian Navy for more than 15 years but was recently decommissioned.”

Especially when discussing EM, Ron stated, “Again, I think the schools are what’s important here. While at Mather Air Force Base in Sacramento for navigation training, there were three or four officers from the Italian Air Force learning the same techniques as I was. I know they had been at Lackland Air Force Base in Texas as well, prior to coming to Sacramento”

The role of formal training in the military services might be difficult to understand for those who have not been in the military. In the civilian world there is camaraderie between students who attend the same colleges and universities. Some of those universities have stronger affiliation cultures than others. University of Notre Dame is an example of a school that could likely be shown to demonstrate a strong affiliation culture. Military service schools have similar strong affiliations. For officers, those examples include Surface Warfare Officer School (SWOS) and Navy Supply Officer School, both in Newport, RI, Basic Underwater Demolition/SEAL
training (BUDS) in San Diego, CA, Naval Flight School in Pensacola, FL and the Top Gun school, now in Fallon, NV. For enlisted sailors, those schools include the dozens of “A” schools that train Gunner’s Mates, Operations Specialists, Damage Controlmen, etc. Similar to the military education schools described above, a strong camaraderie is developed between the graduates of those schools, causing specialty affiliations to be emphasized and national affiliations deemphasized.

**On-the-Job Training**

On-the-job training describes training that was not specifically described by participants as military education or training at formal training school. On-the-job training describes shipboard training, or training within a squadron or workgroup, and was mentioned largely within the context of OL overall and CL, ID and CT. Ike described aviation training within the context of EN: “Everyone in the squadron knew that chances were good that anytime our unit was called to action there would be other services and countries involved in the effort. Any chance to train in preparation for this was welcomed. When our carrier was sent to the Arabian Gulf these integrated training events proved to be very valuable.”

Abe explained how shipboard training enabled ID: “The British would give courses with their subject matter experts that they had. I remember very distinctly them doing educational training on their sonar capabilities and in what they looked for, which is very good because it could be the same or could be different from U.S. military doctrine.” When discussing CL, Lang described how military education, formal training and general training reinforce one another: “We get training on the capabilities of our partners. I learned some of that at the academy, some at SWOS, and every day during operations and intelligence briefings, and especially when we are going to do an operation together.”
According to Ron, “By non-formal training, I assume you are talking about OJT (on-the-job training). Well, that’s what makes the military different from the outside world, right? At any company you spend a small percentage of your time in training. In the military you spend the majority of your time in the air, or time at sea doing OJT. I don’t think it sits out there as something separate from formal training though. Generally, what you learn in a formal training school, flight school for example, or firefighting school, or SERE (Survival, Evasion, Resistance and Escape) school, you then practice out in the fleet. OJT reinforces what you learn in the schools. I think that works the same for when you are operating with your coalition countries. Most of our coalition partners attend our formal training schools – flight training, technical schools, Naval War College, etc. So, then, when we are all working together to fly supplies into Haiti after a real-world earthquake, we essentially execute the same actions that we did in formal training, and that we continued to do during OJT during exercises and war games. It’s really a blend from the formal to the informal to the applied. I can’t think of any other organizations, other than military organizations where that happens like that. So, yes, OJT is probably the primary organizational learning vehicle between coalition navies.”

Similar to the Formal Training section above, the role of training might be difficult to understand for those who have not been in the military. Non-military organizations spend a relatively small percentage of their time in training. Military organizations explicitly describe activities as training that non-military organizations might describe as something else. For example, when a new personnel policy (e.g., tobacco use) is introduced, a civilian organization may have a meeting to introduce and discuss the policy. More likely than not, they will simply distribute the policy via email. In a military organization that same meeting would likely be named as a training event. Similarly, while a life boat drill on a cruise ship is generally not
named as a training event, a lifeboat drill on a navy or coast guard ship is named and documented in logs and training records as a training event. In other words, navy and coast guard personnel are consciously engaged in training during a significant percentage of any typical work day.

**Finding 8: OL is Enabled Through Work Practices**

Participants in the study described a category of OL-related artifacts related to work practices. The work practices finding was supported by the following artifact groups: (a) *Directives*, including publications, instructions, operational orders and other documents that inform U.S. and partner country maritime services; (b) *Intelligence*, defined as information collected, analyzed, packaged and disseminated regarding adversary forces, plans, capabilities and operations; (c) *Tactics, techniques and procedures (TTPs)*, which describes sets of actions that are performed in all military mission areas, and are sometimes, but not always documented in directives. Tactics describe how forces are ordered and arranged for combined operations. Techniques are non-prescriptive ways or methods used to perform missions, functions, or tasks. Procedures are standard, detailed steps that prescribe how to perform specific tasks. Work practices-related activities were the fourth most often-mentioned artifacts in the study.

**Directives**

Directives are documents published by any echelon in the chain-of-command from the National Security Strategy published by the President and National Security Council to instructions published by ships and squadrons, and departments, divisions and work groups. In the majority of references to directives, participants were referring to documents published by mid-level echelons. Examples include Naval Weapons Publications (NWPs), Allied Tactical
Publications (ATPs), NATO Publications, Navy Tactics, Techniques and Procedures (NTTP) publications, Fleet Exercise Publications (FXPs) and Operational Orders (OPORDs). Directives were mentioned by participants largely within the context of SL.

Jack explained how SL is cascaded from top to bottom by leadership on both sides of the partnership. “I always receive that through OPORDs, operational orders or directives through message traffic directly from the chain of command. So, I would get them from the commodore, my minesweeper commodore, who’s receiving them directly from Surface Ops at the Seventh Fleet who’s getting them from Seventh Fleet.” Sara agreed. “We would read OPORDs for the fleet AOR that would talk about general guidance for the ships in that area, CTF-152 (Combined Task Force 152) would have their own strategic documents that would delineate what was expected. From how to fill out an after-action report to how to conduct the visit, board, search and seizures, and communications protocols. So, it’s all in the strategic documents. And desired end-state.” Sara emphasized how those orders are cascaded to the tactical ship level: “Well, I remember in addition to doing the security operations where we all went out and followed the same tasking orders. Another part of that process was we learned how to do search and rescue maneuvers. How we operate and maneuver together. So, practicing and exercises like that helps develop the competency and just how we would cooperate in such a kind of situation.”

York emphasizes how directives are kept current and emphasized in person by leadership. “Well, yes strategic leadership sets the stage. If our national security strategy said don’t share and keep to ourselves, then that’s what we’d do. But it doesn’t say that. It says to partner with our allies. And leadership reiterates that every time they are on the podium. I think it probably helps that our strategy documents get rewritten, at least at the regional and fleet levels,
the posture documents anyway, they get revised on a yearly basis. So, the messages keep getting pushed from the top with great frequency.”

Abe referred to the Quadrennial Defense Review (QDR), the Defense Department-level directive which is a recurring reflection on the evolution of the security environment and the U.S. military’s and our partners’ abilities to counter threats within that environment. Similarly, Lang pointed to the Cooperative Strategy for 21st Century, published by, and occasionally updated by the Chief of Naval Operations (CNO). Partner countries use the Cooperative Strategy “to develop their own strategies to interlink with ours. And we do the same. That document evolves as we have conversations with coalition partners.”

The QDR and the Cooperative Strategy are two good examples of the kind of reflective and OL-focused documents that exist at all command echelons. Other such documents include the National Security Strategy, National Defense Strategy, National Military Strategy, and the strategy and posture documents of each of the military services, fleet commanders and geographic combatant commanders. Those documents usually include: (a) an assessment of the current regional operating environment and threats, (b) how the regional environment has changed since publication of the last strategy, (c) reflections on what strategies have worked well versus what has not worked well within the region, and (d) go-forward objectives and strategies, including how the U.S. will work with regional allies.

**Intelligence**

In this study, intelligence includes information on an adversary’s or another country’s forces, plans, capabilities and operations, collected through a variety of methods. Intelligence generally does not include information on partner countries. Intelligence was referenced mostly
when discussing EN. York described the critical role of intelligence personnel in connecting combined forces to their operating environment: “As an intelligence officer, it is my job to study the environment. We say intelligence drives operations. That philosophy is embedded across the fleet and it is the very essence of what it means for the external environment to be driving what happens internally. Intel, which we call the J2 (the intelligence department within a joint or combined command) in a joint environment provides the window to the outside, and really forces the flow of information from the outside in. Intel is how we learn about our competitive environment if you will, and how we learn about our various regional operating environments, our competitors and even our friends.”

Ron agrees with York and equates the military intelligence function with the business and market intelligence function of an organization in the for-profit world. “Well, we are all studying the environment in which we fight at all times. As an aviator I need to know my adversary’s latest TTPs so that I can respond to them. We’ve both been in the business world. It’s the same thing. Have stuff in place to force you to study your adversary.”

Lang built further on the idea: “So, to make an analogy here, similar to the way companies that form strong partnerships come together to study their business environment to identify opportunities where they can create synergies for going to market, partner navies to the same thing. They collectively study the security environment in a particular region and look for opportunities to work together in partnership. And, like companies, they each bring something, some capabilities or capability set to the table. And the intel guys are doing their intelligence cycle every day – their collection, analysis, production, dissemination – every day. So, every day we and our partners look collectively at the environment, and we report (emphasis) on that environment. And, every day we adjust our operations as necessary. I guess they do sometimes
rely on us to do the lion’s share of the looking (emphasis), because we have the satellites and other collection tools, but that’s changing too.”

The researcher compared his experiences as a naval officer with his experiences as a management consultant across multiple industries. The military’s meme and mindset that “intelligence drives operations” is significantly more ingrained in military organizations than in the private sector. While successful commercial sector companies do rigorously conduct market analyses and business intelligence, those activities generally remain contained within specific business functions, and one rarely hears employees outside Marketing talk about the criticality of understanding the external environment or threat set. In contrast, SWOs, aviators, etc., receive intelligence briefings on a daily basis in a combat environment. All naval and coast guard officers have a general understanding of their regional competitive landscape and the capabilities and objectives of the adversaries in the region.

Tactics, Techniques and Procedures (TTPs)

TTPs describe sets of actions that are performed in all military mission areas, and are sometimes, but not always documented in directives. According to Joint Publication 1–02, tactics describe the employment and ordered arrangement of forces in relation to each other. Techniques are non-prescriptive ways or methods used to perform missions, functions, or tasks. Procedures are standard, detailed steps that prescribe how to perform specific tasks. TTPs were mentioned within OL overall and especially within ID, CT and LS.

Ted explained TTPs within the context of ID and F/A-18 aviation rules of engagement: “You would see traditional rules of engagement. You’d see the NATO rules and then you’d see the U.S. forces rules.” Regarding CT, he explained, “You have that common level of training
through the NATO countries and the high amount of standardization that we have disseminated over the last 40, 50 years and agreeing upon standards for communication, for close air support, and agreeing on standardizations for electronic data sharing.” Ron said the same for EP-3 and maritime patrol operations.

Kit referred to TTPs within the contexts of LS and EM during surface operations: “I assume that in previous exercises, our partners in NATO started acquiring each other’s TTPs and we have them written down. We have TTPs for VBSS (visit, board search and seizure operations) and I assume that through years of sharing TTPs, our TTPs became similar at some point.” When discussing EN, Kit tied TTPs to common platforms – Because we (the U.S.) sell aircraft and other operational assets to other nations, our TTPs need to be similar in nature.

Lex emphasized that common TTPs can be seen at the higher echelons of command as well. Regarding ID he stated, “We bonded as a team, bridging our various world views and experiences into a single mental model for approach complex combat situations with an objective model. Finally, we ‘earned’ (participant used hand quotes) real learning, by truly challenging our existing learned spaces and opening new spaces of thought that we had not considered. I’m unsure whether Mr. Senge explores the concept of earned learning within his models, but it is a fundamental truth of learning that I believe in, aspire to, and account for in all aspects of my professional and personal life. In this seminar, the entire team earned the higher level of learning.”

**Conclusion**

The study found that OL does enable maritime security cooperation between partner countries and that OL itself is enabled through collaborative activities, communicative activities,
human relationships, technology, formal and informal training and education-related activities, and organizational elements and work practices. The study supports evidence collected in the literature review which suggests that OL within the U.S. maritime services (both Navy and Coast Guard) and between partner countries is at least part of the reason for the world’s waterways remaining relatively safe from conflict in recent decades. More importantly, the findings suggest a rich array of launch points for future study in both theory and practice. Potential paths for future study are described in Chapter 5.
Chapter 5: Interpretations, Conclusions and Implications

Review of Findings

To review, the study found that mid-grade Navy and Coast Guard officers do perceive OL as an enabler maritime security cooperation between partner countries. The officers perceive that OL itself is enabled through collaborative activities, communicative activities, organizational elements, human relationships, technology, formal and informal training and education-related activities, and work practices.

Implications for Theory and Opportunities for Future Study

This section is organized by theme and describes implications for theory and opportunities for future study, specifically within the maritime security and military domains, and within the OL theoretical domain overall.

Creating Continuous Learning Opportunities (CL)

The findings described in Chapter 4 suggest U.S. and partner country navies and coast guards, when working together in common enterprise, do create continuous learning opportunities. The CL imperative was especially supported by the collaborative activities and training and education themes. According to Marsick and Watkins (1999), to create continuous learning opportunities, learning should be designed into the work, so that people can learn on the job, and have ample opportunities for ongoing education and growth. In the maritime security domain, exercises, combined operations, and training provide the overall venues for that CL to thrive, especially because each of those venues have after-action reporting as a reflective learning and continuous improvement mechanism that seems to be acknowledged as a standard ingredient by most, if not all countries and services.
The findings also reinforce the commonality, rather than the contrasts between most OL theorists. For example, the after-action reporting artifact supports Argyris and Schon’s (1978, 1996), Argyris, Putnam, and Smith’s (1985), Revans (1980, 1982) action-reflection learning concepts, Goh’s and Richard’s (1997) teamwork and group problem-solving characteristics, and Garvin’s, Edmonson’s and Gino’s (2008) building blocks of time for reflection and concrete learning processes and practices. Based on the researcher’s own comparison between what was learned in the study, and what has been seen in non-military organizations, the military environment seems characterized by more explicit and regular continuous learning activities in the form of structured training, formal schools, named on-the-job training, drills, exercises and after-action reporting activities. The researcher has consulted to companies with more formalized and regularized learning activities, and others with less structured approaches. Explicitness and regularity of continuous learning activities may be significant enablers of OL in both military and non-military organizations. The researcher believes this is an area worth follow-on study.

**Promoting Inquiry and Dialogue (ID)**

The findings suggest U.S. and partner country navies and coast guards promote inquiry and dialogue when working together in common operations and exercises. Marsick’s and Watkins’ (1999) ID imperative was largely supported by the communicative activities theme, and especially the face-to-face communication artifact. According to Marsick and Watkins, to promote ID, members of an organization must be able to express their views and listen and inquire into the views of others, and that questioning, feedback, and experimentation must be supported.

Along with supporting Watkin’s and Marsick’s ID imperative, the findings partially support Pedler, et al. (1997) internal exchange characteristic for sustainable organizational
development and Chiva, Alegre and Lapiedra’s (2007) facilitating factor of dialogue. Notably, while participants mentioned face-to-face interactions 39 times in the interviews, none of the leading OL theorists emphasized the value of face-to-face interactions. In fact, coincidental with the early development of OL theory was a parallel development of knowledge management theory that saw technology solutions such as Lotus Notes as the leapfrogging enabler to organizational inquiry and dialog (Wiig, 1997). The study suggests that, while knowledge-sharing technologies are helpful, face-to-face remains the more powerful and preferred medium. The researcher believes face-to-face versus technology-based ID is worthy of follow-on study.

**Encouraging Collaboration and Team Learning (CT)**

The findings suggest U.S. and partner country navies and coast guards do encourage collaboration and team learning. The CT imperative was largely supported by collaborative and communicative activities themes as well as the personal relationships theme. Again, the face-to-face artifact was emphasized, as was combined operations, after-action reporting and common English language, trust and partner adaptability. According to Marsick and Watkins (1999), to encourage collaboration and team learning, work should be designed to encourage groups to access different modes of thinking so that they can learn and work together, and so that collaboration is valued and rewarded.

The findings similarly supported Senge’s (1990) team learning discipline, Goh and Richards (1997) teamwork and group problem-solving characteristic, Chiva et al.’s (2007) participative decision-making dimension, and Garvin et al.’s (2008) openness to new ideas building block. The findings suggest that structured and repetitive after-action reporting is one significant variable that enables powerful OL within the military services. The researcher believes that a follow-on study testing military-style after-action reporting in non-military
organizations could provide breakthrough insight on how to extend a proven military practice into a civilian organization.

**Establishing Systems to Capture and Share Learning (LS)**

The findings demonstrated that U.S. and partner country navies and coast guards do establish systems to capture and share learning. Marsick’s and Watkins’ (1999) LS imperative was mostly supported through common networks, and specifically the Combined Enterprise Regional Information Exchange System (CENTRIXS) and Global Command and Control System (GCCS). According to Marsick and Watkins, to establish systems to capture and share learning, organizations must create both high- and low-technology systems to share and access learning. Such systems should be integrated with the work, and the content must be maintained. While common networks in the ever-more-interconnected civilian world are taken for granted, the findings suggest that common networks are less taken for granted in an environment where classified information must be protected. Schein (2010) would take notice that CENTRIXS, which in most other organizations, and even in a multi-organization enterprise would reside in the background without much notice, shows itself explicitly as a collaborative artifact in an organization of partner navies and coast guards. Also notable is that Marsick and Watkins are unique in calling explicit attention to knowledge-sharing systems as an imperative. In this respect, the findings support Marsick’s and Watkins’ theoretical framework more than any other framework.

**Empowering People Towards a Collective Vision (EM)**

The findings demonstrated that U.S. and partner country navies and coast guards do empower members of a combined maritime security organization toward a collective vision. The
EM imperative was largely supported by the collaborative and communicative activities themes as well as the personal relationships theme. The artifacts most mentioned were related to trust. According to Marsick and Watkins (1999), to empower people toward a collective vision, members of the organization must be involved in setting, owning, and implementing joint visions. Also, responsibility must be distributed close to decision making so that people are motivated to learn what they are held accountable for.

Along with supporting Marsick’s and Watkins’s EM imperative, the findings also support Goh’s and Richards’ (1997) leadership commitment and empowerment characteristic, and both Pedler’s et al.’s (1997) and Chiva’s et al.’s (2007) participative decision-making dimensions. Notably, trust was either explicitly or implicitly mentioned more than 25 times by the participants. Yet, trust is not explicitly identified as a critical characteristic, dimension, imperative, facilitating factor, or building block of any seminal OL framework. For that reason, the author believes the relationship between trust and OL is worthy of follow-on study.

**Connecting the Organization to Its Environment (EN)**

The findings suggest that U.S. and partner country navies and coast guards as combined organizations do connect with their external environment. EN was supported mostly by the collaborative activities, communicative activities, relationships, training and education, and work processes themes. According to Marsick and Watkins (1999), to connect an organization to its environment, members must be helped to see the impact of their work on the entire enterprise, and they must be helped to think systemically. They must scan the environment and use information to adjust work practices, and the organization must be linked to its community.
Along with supporting Marsick’s and Watkins’ EN imperative, the findings also support Senge’s (1990), Nevis, et al.’s (1995), Jerez-Gomez’s, Cespedes-Lorete’s, and Valle-Cabrera’s (2005), and Marquardt’s (2011) systems thinking characteristics and disciplines as well as Chiva et al.’s (2007) interaction with the external environment dimension. As explained in the findings, the researcher believes the military meme and mindset that “intelligence drives operations” is more ingrained in military organizations than in the private sector. While successful companies do regularly survey and analyze and adapt to their marketplace, that surveillance and analysis generally remains contained within the Marketing department. In contrast, navy and coast guard surface warfare officers, deck officers, aviators, and other non-intelligence specialist officers, are involved in intelligence activities nearly every day, when they receive intelligence briefings, and oftentimes when they are involved in intelligence collection as part of their mission.

The researcher believes the military’s connectedness to its environment through intelligence is worth of additional study. The intelligence production cycle of planning, collection, analysis, production and dissemination is an organizational mechanism that is ingrained in the daily lives of all officers and sailors involved in maritime operations. As a result, they are acutely aware of the threats and challenges of their operating environment in general, and on any given day in the fleet. In other words, military organizations have a very high-level of environmental awareness. They maintain that same high level of awareness when working together in combined operations. The researcher believes a such a follow-on study could be focused on March’s (1991) theory that organizations must strike a balance between exploration and exploitation. Focus too heavily on exploration for new ideas products and services, and the organization runs the risk of not being able to absorb, operationalize and earn value from new discoveries. Focus too heavily on exploitation, and the organization risks missing the discovery
of breakthrough opportunities that deliver exponential growth and performance improvement. Leaders must be able to look within their organization, to understand both the explicit and implicit ways that resources are allocated towards exploration and exploitation and balance them appropriately. The literature review in this study suggests that individual military organizations (e.g., U.S. Navy) and military organizations working in a combined enterprise (e.g., Combined Task Force 151, working on counter-piracy mission in the Indian Ocean) have been successful at striking that balance.

**Providing Strategic Leadership for Learning (SL)**

The findings suggest U.S. and partner country navies and coast guards do provide strategic leadership for learning. Marsick’s and Watkins’ (1999) SL imperative was supported largely by the work practices, communicative activities, and relationships themes, and specifically artifacts related to directives, personal relationships and face-to-face communications. According to Marsick and Watkins, to provide strategic leadership for learning, leaders should model, champion, and support learning activities. Along with supporting Marsick’s and Watkins’ EN imperative, the findings also support Goh’s and Richards’ (1997) leadership commitment and empowerment characteristic, Nevis’s, DiBella’s and Gould’s (1995) involved leadership facilitating factor, and Garvin et al.’s (2008) leadership that reinforces learning building block.

**Extending the Study Across Industries and Geographies**

Stepping back and looking at the study more holistically, one notices that some themes were highly recurrent across the seven imperatives. The collaborative and communicative activities themes are good examples. Other themes were less recurrent. Similarly, some artifacts
such as face-to-face interaction, exercises, training, and TTPs (tactics, techniques and procedures) were highly recurrent across imperatives, and others less so. As a career management consultant with experience in multiple industries and multiple countries, the researcher hypothesizes that the thematic and artifactual mix would vary based on industry and geography. In other words, while after-action reporting was a key enabler in regional maritime security partnering, in other industries and geographies, other themes and artifacts (e.g., dining together) would have greater significance. The researcher believes the study could be extended by industry or geography to explore how the thematic and artifactual mix might change. Along with additional qualitative study, Marsick’s and Watkins’ (1999) Dimensions of the Learning Organization Questionnaire (DLOQ) could be used as a quantitative instrument.

**Implications for Practice and Additional Opportunities for Future Study**

The findings suggest a set of specific opportunities for the U.S. and its partner navies and coast guards to improve the way they work together on a regular basis. The opportunities are described below by theme: Enhance and Extend Collaborative Activities; Enhance and Extend Communicative Activities; Build and Extend Collaborative Organizational Elements; Develop and Enrich Personal Relationships; Enhance and Extend Collaborative Technologies; Broaden Training and Education Programs; Align Work Practices for Collaboration. This section is organized by theme rather than OL imperative because the researcher believes the themes will be more recognizable to Navy and Coast Guard leaders as areas for emphasis and resourcing.

**Enhance and Extend Collaborative Activities**

Collaborative activities were the top-mentioned theme in the study. The findings suggest that U.S. and partner navies and coast guards already have the broad venues for OL. Participants
in the study believe real-world collaborative operations and exercises are the broad venues within which OL overall and CL is already taking place. In other words, the more countries work and exercise together, the better they become at working and exercising together. Thus, the recommendation to policymakers and Pentagon-level leaders is rather simple – Direct U.S. military services (and increase or reallocate budgets accordingly) to increase the percentage of military operations that are combined operations, and increase time spent exercising with partner countries.

Pentagon-level leadership and fleet commanders should also consider how to enhance and extend the use of briefings and after-action reporting. Briefings were mentioned 16 times by participants, and after-action reporting was mentioned 20 times. Together, they present a tremendous amount of leverage for increasing OL. On every occasion that partner countries brief one another or brief with one another, it reinforces that those partner countries are partners and that they are participating in OL with one another. That reinforcement is even more evident during combined after-action reporting. Briefings and after-action reporting could potentially be made even more normalized through combined operational orders and directives. More importantly, Argyris (1977), Senge (1990), and Garvin et al. (2008), would suggest that the objective of briefings and after-action reporting could be evolved from today’s typically single-loop emphasis (e.g., What did we learn during the mission?) to a double-loop ontological (e.g., What did we learn about how we learned?) emphasis. The result would be a more reflexive and agile regional maritime security partnership. As Nafukho (2008) might suggest, the terms briefing and after-action reporting themselves could be renamed to something less Western that would reinforce their collaborative and reflexive functions – Something that Schein (2010) would describe as a purposeful reshaping of cultural artifacts.
**Enhance and Extend Communicative Activities**

Communicative activities were the second most mentioned theme in the study. Face-to-face communications were mentioned 39 times by participants, and common language and nomenclature was mentioned 22 times. The findings suggest policymakers and Pentagon-level leaders could make some minor reinvestments to create more opportunities for face-to-face communications, and more common language and nomenclature. For example, the U.S. has military bases around the world where low-cost English language courses could be established for partner country navy and coast guard personnel. Leadership should also look for opportunities to extend common nomenclatures through expanded combined operational directives. They might also consider changing NATO fleet nomenclatures to conventions that are more inclusive, with less emphasis on North Atlantic membership and Russia as a permanent adversary.

At the tactical and operational level, fleet commanders should seek opportunities to increase the amount of face-to-face time between partner country personnel when navies and coast guards come together for combined operations and exercises. That could mean cross-decking personnel earlier in the planning process, and cross-decking a larger number of personnel during operational phases of missions and exercises. Increased face-to-face time could also be accomplished through coordination of combined port visits, on-the-job training (OJT) events, and morale-building events.

**Build and Extend Collaborative Organizational Elements**

The findings suggest U.S. and partner country maritime services already do know how to “stand up” organizational elements to enhance OL when required by a mission. One interviewee
(Carl) described the partner country special warfare “schoolhouse” that borrowed after-action reporting techniques from the Army’s Center for Army Lessons Learned (CALL). Another example is Department of Defense’s Joint Improvised-Threat Defeat Organization (JIDO) which shares improvised explosive device (IED) lessons learned. Participants seem to agree that, when the mission requires that OL must be increased (e.g., to counter-IEDs, to counter piracy, for dhow recognition and interdiction, etc.), a dedicated OL organization does help enable OL. Pentagon-level leadership and fleet commanders should consider options to establish dedicated OL-enabling organizations within the fleet commands or make the stand-up and stand-down of such organizations more easily repeatable – In other words a CALL-like “center in a box” that could be established at the beginning of a combined fleet exercise and disestablished at the end.

**Develop and Enrich Personal Relationships**

Along with communicative activities, personal relationships were the second most mentioned theme in the study. Trust was mentioned 25 times by participants, personal relationships specifically were mentioned 19 times, and common interest mentioned 15 times. Participants seemed to have an explicit awareness that military organizations by nature are delegative, and therefore trustful. Even between partner countries with different and sometimes competing interests, the interviewees seemed to emphasize, not a distrust that needs to be overcome, but rather an inherent trust that needs to be nurtured. In the military organizations of all countries, orders are handed down from higher echelons to lower echelons, generally describing a desired end-state or end-result, and without describing in detail how the work must be done. While many non-military organizations espouse empowerment and do have empowerment as an underlying value, few of those organizations have such tangible, persistent and recurrent delegation and trust-related artifacts as do military organizations. Each time a navy
or coast guard ship of any country departs its home port, its commanding officer is delegated a tremendous amount of authority and trust. Schein (2010) would suggest that that delegation of authority or empowerment is reinforced by a multitude of cultural artifacts – For example, every time the commanding officer reads the ship’s mission orders to the wardroom and visibly each time the ship casts its lines from the pier.

Since the findings suggest that trust is generally already present between partner country navies and coast guards, leadership must seek opportunities to build upon and extend that trust. Operationally speaking, that means demonstrating and communicating that trust, for example, when relying on a partner navy minesweeper to clear a channel, or when sharing intelligence, or when allowing partner country aircraft to land on a U.S. flight deck. That trust also seems to be enhanced when senior leaders use trustful language with their partner country counterparts, and that trustful language is emulated by the leadership echelons and sailors below. The findings suggest that when junior officers observe senior officers develop close personal relationships with their partner country counterparts, the junior officers tend to do the same. And when senior officers explicitly describe the common security interests shared by the U.S. and its allies, junior officers tend to emulate that as well. Again, Freire (1971), Nafukho (2008), Schein (2010), and all adherents of the interpretivist paradigm point to the importance of language – For example, renaming the annual multilateral Asia Pacific exercise from Rim of the Pacific (RIMAC) to “Exercise Trust” would have a reinforcing effect on trustfulness amongst the partner countries.

Finally, reiterating what was said in the previous section regarding face-to-face communications, to develop and enrich personal relationships, fleet commanders should seek opportunities to significantly increase the amount of face-to-face time between partner country
personnel through increased cross-decking of personnel, structured on-the-job training (OJT) and combined port visits and morale-building events.

**Enhance and Extend Collaborative Technologies**

Technology was the sixth most mentioned theme in the study. Within the technology theme, networks were mentioned 22 times by participants. Networks in the civilian world are largely taken for granted. In comparison, partner navies and coast guards seem to view CENTRIXS and other classified information-sharing networks more tangibly, as information bridges between their respective organizations. One interviewee suggested that access to CENTRIXS, GCCS, BICES, etc., is an incentive for a partner country to seek a closer working relationship with U.S. forces. Having access to the networks means having access to intelligence on common adversaries as well as strategies and capabilities of potential partners. For example, the maritime security services in a developing African country trying to fight human trafficking and piracy would benefit by having access to the intelligence produced by the U.S. Navy’s Office of Naval Intelligence (ONI) in Suitland, MD and stored on the BICES platform. Similarly, the maritime security services in a developing Latin American country would benefit by having access to intelligence produced by the U.S.’s Joint Interagency Task Force South (JIATF) in Key West, FL. The U.S. and its larger Western allies would, in turn, benefit from the intelligence that the developing countries would add to the common repository.

Thus, based on the findings in this study, Pentagon and fleet-level leadership should more actively “market and sell” access to CENTRIXS, GCCS, BICES, etc., as an incentive for closer collaboration between countries. In addition, similar to what was suggested in the section above regarding potential renaming of exercises, leadership should recognize the potential value of rebranding and renaming CENTRIXS and other common networks to reinforce those networks
as bridges between countries. After a new partner country subscribes to the common network, as they prove their ability to protect sensitive and classified information, they can earn access to more sensitive and higher classifications of content. In the words of interviewee Lang, “the closer they get, the more we share.”

**Broaden Training and Education Programs**

Training and education was the third most mentioned theme in the study. The findings suggest that U.S. and partner navies and coast guards already make excellent use of the senior service schools such as the Naval War College, National Defense University, etc., as well as technical schools, including flight training and enlisted “A” schools.

Pentagon and fleet level leadership should consider three recommendations. The first recommendation is rather simple – Consider expanding funding for partner country personnel to attend U.S. senior service and technical schools, and for more U.S. personnel to attend partner country schools. Second, leadership should consider building into the existing curricula some events where U.S. and partner country representatives have opportunities for more combined reflexive exercises. Such exercises could allow participants to explore and discuss their cultural positionalities and common and differing definitions of security, freedom, success, etc. Those conversations may result in an exponential improvement in inquiry and dialogue as they have proven to do on civilian university campuses.

Third, countries are increasingly conducting training while operating together, which is often called on-the-job-training (OJT). For example, interviewee Kit described OJT events between U.S., German and Italian visit, board, search and seizure (VBSS) teams. However, OJT remains an informal process. Leadership should explore whether “ritualizing” some OJT
activities such as after-action reporting might make OJT more repeatable, productive and reflexive.

**Align Work Practices for Collaboration**

Work practices was the fourth most mentioned theme in the study, with the majority of references related to tactics, techniques and procedures (TTPs), directives and intelligence. Multiple participants mentioned how NATO TTPs and directives have enabled NATO country military services to work together more collaboratively. Leadership should focus on growing the usage of those TTPs and directives outside the NATO circle, except for specific content that must be restricted to NATO eyes only. As recommended in multiple sections above, the NATO TTPs and directives might also be renamed more inclusively.

Similar to the technology section above, Pentagon and fleet-level leadership should more actively market and sell access to intelligence as an incentive for closer collaboration between countries. After a partner country “subscribes” to intelligence-sharing with the U.S. and allies, and as they prove their ability to protect sensitive and classified information, they can earn access to more sensitive and higher classifications of content. Again, Lang’s statement, “the closer they get, the more we share,” would be the marketing message or meme. For Schein (2010), that meme would be a purposefully developed cultural artifact, intended to emphasize the “we” in a partnership between countries. Our constructivist lens suggests that every time partner country personnel attend a combined intelligence briefing, it reinforces the partnership. In other words, when U.S. and British aviators attend an intelligence briefing on Iranian anti-air warfare capabilities, it reinforces that the U.S. and U.K. have common interest against a common adversary. Thus, an intelligence briefing is good for the U.S.-U.K. partnership. Unfortunately, it is a bit of a double-edged sword as well. That same briefing reinforces that Iran is the adversary,
creating otherness, which is ultimately the opposite of what is best for the creation of a peaceful world.

**Build and Communicate a Common Mental Model**

Senge (1990) describes mental models as conceptual frameworks consisting of generalizations and assumptions from which people understand the world and “take action” in it. The view is informed by Weber’s (1952) description of humans as beings suspended in webs of significance that humans themselves have spun. For Senge, mental models can often be constraining mechanisms that prevent organizations from fully comprehending the environment within which they compete, and from envisioning a future of competitive advantage. In other words, some organizations suffer because they are unable to break out of the mental models of their members and/or the collective mental model of the organization as a whole. In contrast, some organizations lack a collective mental model that can help build common cause amongst its members.

Regional maritime security structures are not broken enterprises locked in the mental models of U.S. and Western forces. Neither are they broken enterprises lacking common cause. On the contrary, as explained at the beginning of this study, the maritime domain is currently relatively peaceful. In recent decades a multitude of nations have come together in common enterprise for counterpiracy, counter-narcotics and large-scale humanitarian assistance and disaster relief efforts. However, the researcher does believe partner countries can potentially benefit by having a more collective view or common mental model on how OL enables regional maritime security and global security overall. The findings of this study suggest the following *OL Model for Maritime Security*: 
The **OL Model for Maritime Security** can provide a mental model for practitioners to learn and reflect on how OL-related activities, when practiced and improved in the fleet, can have a ripple effect upward. For example, standardizing and extending after-action reporting in the fleet can help improve OL between partner country navies and coast guards. Improving OL can help improve regional maritime security and regional security overall. If the regions of the world can be made safer, the world itself can be made safer. The researcher consolidated the organizational elements and work practices themes into a combined category in the final iteration of the **OL Model for Maritime Security**.
Concluding Remarks

The study was initially conceived as a positivist study, with a hypothesis and controlled experiments to test the hypothesis. As the researcher conducted the literature review and reflected on his own experience as a practitioner in the organizations being studied, the study became more post-positivist and interpretivist. Looking forward to where the study might be extended forward, a fourth paradigm of inquiry must be explored – critical theory. Similar to a post-positivist and interpretivist, a critical theorist believes in a reality that is rested in social and historical contexts. However, the critical theorist’s intention is to study and draw attention to the injustice and subjugation which shapes the world (Kincheloe & McLaren, 2000). According to Kemmis and McTaggart (2000), the human experience is characterized by power relations within social and historical contexts. For Kincheloe and McLaren the same dialectic interaction that helps the interpretivist analyze the analysts, can also help the critical theorist create a more egalitarian and democratic social order. A critical theorist would step back and view this study with a bigger perspective. They would start by tracing the logic in the OL Model for Maritime Security. They would likely argue: Yes, developing and enriching personal relationships between partner country personnel may improve OL between partner country navies and coast guards. And yes, improving OL may improve regional maritime security. However, the critical theorist would likely then ask: But, security against whom? Who is the adversary? Why are they an adversary? Doesn’t your model reinforce that an adversary is an adversary, rather than a potential friend?

The researcher agrees with the critical theorist in the need to build a more egalitarian and democratic world. And, the researcher admits that this study stops short of a critical theoretical analysis. The researcher also points back to the OL Model for Maritime Security. The model does
suggest seven specific themes or drivers that can contribute to OL between partner countries and ripple upwards to have a net positive effect on global security overall. However, the model also suggests a multitude of additional drivers that are yet to be determined (represented by the blank dotted-line bubbles). For example, along with improving OL between partner countries, the researcher believes in the need to increase the number of countries that are considered partners and decrease the number of countries that are considered adversaries.

To meet the ever-increasing security complexities in each region of the world, U.S. policymakers and national security leaders in successive presidential administrations have directed U.S. military services to work more collaboratively with regional allies. The Trump administration and successive U.S. geographic combatant commanders (COCOMs), Chiefs of Naval Operations (CNOs), and Coast Guard Commandants have continued that policy. As a result, countries in all regions of the world have been engaged in an unprecedented level of worldwide maritime security cooperation. Multinational naval exercises such as Rim of the Pacific (RIMPAC) have expanded exponentially and countries large and small have partnered successfully to reduce seaborne narcotics trafficking and piracy. The researcher contended that OL has been and will continue to be an enabler of that cooperation.

The study found that OL does enable maritime security cooperation between partner countries and that OL itself is enabled through collaborative activities, communicative activities, human relationships, technology, formal and informal training and education-related activities, and organizational elements and work practices. The findings suggest a rich array of launch points for future study in both theory and practice. The researcher hopes the findings in this study will help fleet commanders recognize the role and value of OL in regional maritime security cooperation between partner countries. By nurturing and growing OL in their respective
geographic regions, fleet commanders and their leadership teams can grow and nurture
friendships with allies. Growing and nurturing those friendships region-by-region can help create
a safer maritime domain and safer region overall. Hopefully those friendships will gain the
attention of adversaries, who will recognize the value of being friend rather than foe. And, region
by region the world can be made safer for current and future generations.
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Appendix A: Interview Protocol

**Welcome:** Thank the interviewee for participating. Explain the purpose of this interview is to explore how U.S. maritime service officers describe how they learn and work cooperatively with their foreign navy counterparts.

**Purpose of the Study:** U.S. fleet commanders in the regions of the world will benefit from a deeper understanding of the OL elements that drive collaboration. Identifying those elements allows leadership to emphasize and resource those elements.

**Interview Process:** Walk through and sign the informed consent form.

**Introduction:** Let’s start with a brief discussion of your professional background and experiences. Can you tell me about your Navy “life story”? Probing questions: Tell me about your career assignments in the Navy? What was your role in each assignment? Have you had any specific role or roles in working with partner country maritime services, either navies or coast guards? If yes, what were those roles?

**OL:** How do U.S. and foreign partner navies and coast guards learn and work together?

<table>
<thead>
<tr>
<th>Action Imperative</th>
<th>Definition</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create continuous learning opportunities (CL)</td>
<td>Learning is designed into work so people can learn on the job; opportunities are provided for ongoing education and growth.</td>
<td>In a tactical/operational setting, how do combined U.S. and foreign maritime service teams continuously learn and improve?</td>
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<tr>
<td>Promote inquiry and dialogue (ID)</td>
<td>People express their views and listen and inquire into the views of others; questioning, feedback, and experimentation are supported.</td>
<td>How does questioning and feedback take place?</td>
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<td>Encourage collaboration and team learning (CT)</td>
<td>Work is designed to encourage groups to access different modes of thinking, groups learn and work together, and collaboration is valued and rewarded.</td>
<td>How do work processes and procedures enable collaboration?</td>
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<tr>
<td>Establish systems to capture and share learning (LS)</td>
<td>Both high- and low-technology systems to share learning are created and integrated with work, access is provided, and systems are maintained.</td>
<td>How is knowledge captured, stored and reintegrated with work?</td>
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<td>Empower people toward a collective vision (EM)</td>
<td>People are involved in setting, owning, and implementing joint visions; responsibility is distributed close to decision making so people are motivated to learn what they are held accountable for.</td>
<td>How are people involved in creating and implementing shared vision?</td>
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<td>Connect the organization to its environment (EN)</td>
<td>People are helped to see the impact of their work on the enterprise, to think systemically; people scan the environment and use information to adjust work practices; the organization is linked to its community.</td>
<td>How do teams understand the external environment and adjust work practices to respond to external influences?</td>
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<td>Provide strategic leadership for learning (SL)</td>
<td>Leaders model, champion, and support learning; leadership uses learning strategically for business results (Marsick and Watkins, 1999).</td>
<td>What role does leadership play in enabling combined U.S. and foreign maritime service teams to learn?</td>
</tr>
</tbody>
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**Wrap Up:** Thank the participant for their time. Ask if they have any questions.
### Marsick's and Watkins' (1999) Seven Imperatives

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<tr>
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**Note:** Occurrences of 3-7 are highlighted in light green/gray. Occurrences 8 or greater are highlighted in dark green/gray.