

2021

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Recommended Citation

Oppermann, Brenda and Nault, William (2021) "Transformational Leadership in the Navy—Cultivating a Learning-Organization Culture," *Naval War College Review*. Vol. 74 : No. 1 , Article 10.
Available at: <https://digital-commons.usnwc.edu/nwc-review/vol74/iss1/10>

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TRANSFORMATIONAL LEADERSHIP IN THE NAVY

Cultivating a Learning-Organization Culture

Brenda Oppermann and William Nault

Strange as it sounds, great leaders gain authority by giving it away.

ADMIRAL JAMES B. STOCKDALE

Maintaining a competitive edge in the twenty-first century is no small feat for any large, hierarchically based, and geographically dispersed organization, such as the U.S. Navy.¹ While there are many initiatives designed to keep pace with the tsunami of technological developments and ever-evolving global politics, the role of leadership in charting a course to excel in this environment is paramount.

This article tells the story of Pearl Harbor Naval Shipyard's experience cultivating the type of transformational leadership necessary to succeed—and even thrive—in today's rapidly changing, complex world. Having applied a learning-organization framework for more than a decade, the shipyard has changed how its members think, act, and communicate. By shifting its workplace culture from one that was stratified, stovepiped, and command-and-control oriented to one that encourages risk taking, adaptation, and individual empowerment (without changing its organizational structure), Pearl Harbor Naval Shipyard (PHNS) not only has improved its performance significantly but has expanded the notion of what it means to be a leader in the Navy.

MILITARY ADAPTATION, INNOVATION, AND TRANSFORMATION

The military's primary role is to respond to threats to national security. These threats may come in many forms—political, economic, and ideological, to name a few—and often they occur with little to no warning. Operating in such a complicated, complex, and unpredictable environment, the military must remain vigilant in its efforts to stay abreast of changing conditions and be able to adapt to them quickly. In his landmark publication *The Professional Soldier*

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Naval War College Review, Winter 2021, Vol. 74, No. 1

(1960), Morris Janowitz underscored this point, noting that, contrary to popular opinion, the military as an institution is not static but adapts in response to the changing conditions of the society. For instance, following World War II the international context changed significantly, to a situation in which the development of nuclear weapons and strategic concepts of dissuasion led to a transformation of military professionals' function; instead of seeking victory on the battlefield, they became controllers of a machine designed to remain inactive.²

Military and diplomatic historian Williamson Murray also highlights the adaptive nature of military organizations. In his book *Military Adaptation in War: With Fear of Change*, he presents several historical case studies examining how military organizations cope with changing conditions. In particular, he focuses on the impact of new technological, strategic, operational, and tactical concepts with respect to the services' performance. He notes that adaptation in the military occurred at a glacial pace until technological and sociological changes of the Industrial Revolution began to interfere with the processes of war. This called for continual change, during peacetime and war, in response to an increasingly complex battle space—making adaptation a major element in military effectiveness. And this continual change must occur despite the fact that “discipline and rigid respect for one's superiors—on which cohesion in battle depends—are antithetical to the processes of adaptation, which require a willingness on the part of subordinates to question the revealed wisdom of their superiors.”³ Murray goes on to observe that the inherent tension between the need for military organizations to be disciplined and obedient and the need for organizations to be able to adapt to constant change is what “makes military innovation in peacetime and adaptation in war so difficult.”⁴ Difficult or not, forces affecting national defense in today's world—including disruptive technologies, cyber warfare, and protracted conflict against nonstate actors in a low-tech, global war on terrorism—have both accelerated armed conflict and modified our notions of warfare, creating the need for continuous processes of innovation and adaptation.⁵

Although military organizations must (and do) adapt to changing conditions to fulfill their missions successfully, this sort of flexibility generally is not considered to be part of the culture of military organizations.⁶ On the contrary, the military is renowned for being one of the oldest and most prominent examples of formal organizations, forged by tradition and seemingly more committed to the ethos of the past than to preparing to meet the future.⁷ Similarly, the bureaucracies (both civilian and military) that run the military also can inhibit flexibility and the ability to effect change, since they strive to impose order on disorder rather than adapting to a changing and uncertain world.⁸

While adaptation and innovation in the military occur despite considerable constraints, developing this capacity *in anticipation* of fluctuating conditions rather than merely *in response* to them marks the difference between adequately and high-performing organizations. At the core of high-performing organizations are leaders who encourage followers to act independently to achieve goals that represent the values and motivations of both leaders and followers.

According to James MacGregor Burns, an American historian, political scientist, and authority on the study of leadership, this type of leadership is *transforming leadership*. Burns identified two basic forms of leadership, transactional and transforming. He considered *transactional leadership* to be the most common, existing where “leaders approach followers with an eye to exchanging one thing for another,” such as wages for labor or influence for campaign contributions; transactional leaders essentially are brokers. Transforming leaders, on the other hand, recognize and exploit an existing need or demand of a potential follower. They also look for possible motives and higher needs in followers, engaging the follower as a complete person.⁹ Leaders in the military (as in most organizations) generally fall into Burns’s transactional leader category.

To meet the multiple, complex challenges of the twenty-first century, the Navy needs more leaders who can transform rather than simply transact. As the Navy’s 2016 *Design for Maintaining Maritime Superiority* makes clear, today’s security environment—characterized by a rapid pace of change in the maritime system, in the information system, and in the evolution and adoption of technology—is one in which “[o]ur competitors are moving quickly, and our adversaries are bent on leaving us swirling in their wake” as they hone their ability to adapt swiftly to this new environment. In response, Navy leaders should accelerate learning by individuals, teams, and organizations, since doing so empowers, enables, and facilitates the true potential of sailors, officers, and Department of the Navy civilians to determine the best ways to operate in today’s security environment.¹⁰

IMPROVING PERFORMANCE AT PEARL HARBOR NAVAL SHIPYARD

Considered even then to be a strategic location between the U.S. mainland and the rest of the Asia-Pacific region, Hawaii became home to Navy Yard Pearl Harbor (NYPH) on 13 May 1908. Operationally, NYPH served as a vital mid-Pacific coaling and repair station for the U.S. Navy. Strategically, it served as a defensive outpost. According to Naval Sea Systems Command (NAVSEA), parent command of what is known today as Pearl Harbor Naval Shipyard, “[t]he Shipyard

has continuously improved from its modest creation as a coaling and repair station into a world-class Navy complex . . . enabl[ing] the U.S. Navy to secure sea lanes of communication and commerce, effectively projecting power across the expansive Pacific and Indian oceans.” Today, PHNS is the nation’s largest, most comprehensive fleet-repair and -maintenance facility between the U.S. West Coast and the Far East.¹¹

Navy Yard Pearl Harbor performed a near miracle in 1942 when it managed to repair fully USS *Yorktown* (CV 10), which had been damaged badly in the Battle of the Coral Sea, in a mere three days, despite estimates that it would take ninety days to complete repairs of that magnitude. During the battle, “[a] 551-pound armor-piercing bomb had plunged through the flight deck 15 feet inboard of her island and penetrated fifty feet into the ship before exploding above the forward engine room. Six compartments were destroyed, as were the lighting systems on three decks and across 24 frames. The gears controlling the No. 2 elevator were damaged. She had lost her radar and refrigeration system. Near misses by eight bombs had opened seams in her hull from frames 100 to 130 and ruptured the fuel-oil compartments.” Despite the extensive damage, 1,400 repairmen—shipfitters, machinists, welders, electricians, and shipwrights—worked around the clock to restore *Yorktown*’s structures and systems. Integrated with the team were planners and estimators who worked on board providing advice directly from the ship’s plans. This impressive teamwork enabled the speedy repair of *Yorktown*, allowing it to contribute to the decisive victory in the Battle of Midway—a pivotal point for the Allies in World War II in the Pacific.¹²

Some sixty years later, however, PHNS no longer was living up to its motto “We Keep Them Fit to Fight.” Instead, the shipyard was “struggling with performance issues and was generally recognized as being the worst performing shipyard, the fourth of the four public shipyards.” The Base Realignment and Closure (BRAC) commission noted that cost, efficiency, and quality at PHNS were major issues of concern, and that it had considered closing the shipyard in 2005. After a great deal of deliberation involving congressional testimony, factors such as Pearl Harbor’s location in the Pacific, the need for surge maintenance capacity, and the impact the shipyard had on Hawaii’s economy kept PHNS from being closed down.¹³ Yet although the BRAC commission’s recommendation was not followed and the shipyard was not closed, “it did get the attention of the men and women of Pearl Harbor and the leadership at the Naval Reactors Program.” The Naval Reactors Program “provides the design, development and operational support required to provide militarily effective nuclear propulsion plants and ensure their safe, reliable and long-lived operation.”¹⁴

The shipyard's continual poor performance over time, combined with calls to close the yard through the BRAC process, made it clear that PHNS needed to change. The lead Naval Reactors representative acknowledged this and responded in an uncharacteristic way for a senior leader. Rather than directing others to make necessary changes, "he began the path to change [by first] creating change within himself." He demonstrated this during a standard NAVSEA review of the shipyard. "Instead of focusing leadership's attention on the numerous shortcomings and deficiencies that were identified during the review, the lead Naval Reactors representative chose to share his belief in the shipyard and what its leaders were capable of." Just as PHNS had made a critical difference during World War II, so too was it capable of high-quality performance today. By focusing on a vision of what the shipyard could be, the Naval Reactors representative "created a spark that would fuel the drive to transform the shipyard into a learning organization."

THE SHIPYARD BECOMES A LEARNING ORGANIZATION

While the Naval Reactors representative's vision of what PHNS could be (again) ignited a transformation, Peter Senge's concept of a *learning organization* turned that spark into a long-burning flame. The representative believed that Senge's learning-organization framework, explained in his book *The Fifth Discipline: The Art and Practice of the Learning Organization*, would help PHNS return to its legacy as a shipyard capable of delivering high-quality work and performing exceptional feats. Consequently, he familiarized the shipyard leadership with the concept and book during a routine visit.

Senge, a systems engineer and major figure in organizational development, believes that only those organizations that are able to adapt quickly and effectively will be able to excel in their field or market. Those that do this are organizations skilled at creating, acquiring, and transferring knowledge and at modifying their behavior to reflect new knowledge and insights.¹⁵ In brief, a *learning organization* is one "that is continually expanding its capacity to create its future . . . where 'adaptive learning' must be joined by 'generative learning,' learning that enhances our capacity to create."¹⁶

Senge's learning-organization model consists of the following five disciplines:¹⁷

1. *Personal mastery*: continual clarification of what is important to us and learning how to see current reality more clearly
2. *Mental models*: deeply held internal images of how the world works
3. *Shared vision*: what you and the other members want to create or accomplish as part of the organization

4. *Team learning*: the process of aligning and developing the capacity of a team to create the results its members truly desire
5. *Systems thinking*: a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static “snapshots”; it also provides a *language for complexity*

These five disciplines must develop together, even though integrating new approaches is much more difficult than applying them separately. Because of this, systems thinking is the fifth discipline. “It is the discipline that integrates the disciplines, fusing them into a coherent body of theory and practice.” Systems thinking also helps one understand one of the subtlest, most important aspects of a learning organization: “a shift of mind from seeing ourselves separate from the world to connected to the world, from seeing problems as caused by someone or something ‘out there’ to seeing how our own actions create the problems we experience.”¹⁸ By reframing how we view the world and our role and responsibility in creating it, Senge’s learning-organization framework provides a pathway to creating an environment in which people are empowered to lead efforts to create the results they desire for their future.

While the shipyard recognized more than a decade ago that Senge’s learning-organization framework provided a way to improve its performance in a sustained manner, the 2017 U.S. Navy Strategic Readiness Review (SRR) also acknowledged the value of Senge’s concept. The review noted that, “faced with a dynamic environment, a learning culture is critical to ensuring adaptability of the organization. A culture that makes people eager to understand risk enables early identification of systemic risks and behaviors before problems occur.” In addition, the SRR went so far as to define a learning organization using Senge’s terms, stating that a *learning organization* is “an enterprise that encourages, and ultimately embraces, learning through systems thinking, personal mastery, mental models, shared vision, and team learning.”¹⁹

WALKING THE TALK: FIRST STEPS

The first indication that PHNS was “walking the talk” (i.e., evolving into a learning organization) surfaced in connection to a routine activity: a shipyard performance review conducted by an external agency. Once the review was completed, the shipyard’s senior leadership responded to its findings during a formal outbrief, then spent the following year addressing the findings and making improvements.

But instead of conducting the performance-review process in the standard manner, the external review in 2006 was conducted as a learning organization would. Two primary actions demonstrated this. The definition of the aim of the

external review itself constituted the first action. Instead of highlighting discrete problems that needed to be fixed at PHNS, as typically was done, the review focused on what needed to be done to effect lasting change at the shipyard. As an example, the review team's most significant finding was not a specific technical or operational problem but rather the fact that PHNS "middle management is unable to effect change without significant senior management involvement." Bound in a confining governance structure that mirrored a military hierarchy, PHNS relied on top-down direction from senior leadership for all performance-improvement initiatives. While this leadership model yielded some short-term gains, most efforts lost momentum over time when senior leaders stopped investing their time and energy. As a result, lasting change—and its desired outcome of sustained improved performance—remained elusive at the shipyard.

This idea of "stickiness" as it relates to inducing long-lasting organizational and cultural change is a key concept for Senge and others. Organizations often set out on well-intended and well-planned organizational improvements, with an eye toward shifting the basic culture of the organization, only to find that over time the organization, suffering from bureaucratic inertia, reverts to old habits. In contrast, the PHNS example shows a leadership team dedicated to persisting in an effort that was bound to take many years to complete and in which results would be incremental and often hard to see or measure. This level of strategic patience is rare within highly structured and successful organizations such as the Navy, because there is no competitor to drive organizational improvement. Militaries are quick to respond to enemy capability improvements (hardware) with similar advancement and growth, but organizational and cultural change rarely is brought about through peer competition; almost always it is an internal crisis or near crisis that dictates organizational self-assessment and eventual change. In bringing about enduring and sticky change, as seen in this example, PHNS truly has demonstrated the meaning of being a learning organization.

The second primary action demonstrating learning-organization behavior at PHNS concerned the outbrief resulting from the 2006 external performance review. In the past, only senior leaders from the Navy and PHNS had addressed review findings; during this particular outbrief, however, middle managers responsible for specific issues were called on to address the findings. The eleven middle managers who participated came to be known as the "Group of Eleven" (subsequently called the Learning Organization Steering Group). They committed individually, to the Navy and to the shipyard's senior leaders, to be the middle managers and leaders the shipyard needed to start the transformational process necessary to achieve sustained improved performance. Equally important, Navy and the PHNS senior leadership clearly demonstrated trust

and support in the middle managers' ability to improve performance over the long run. This was a critical event, as it illustrated to everyone in the shipyard that PHNS was on the path to becoming a learning organization.

One small group of middle managers started by reading *The Fifth Discipline* (which came to be known as the "black book" because of its cover). They used the five disciplines as a framework, with some from this group practicing personal mastery as the first step in the process, while the Group of Eleven started by developing a shared vision within the team. The Group of Eleven also created a presentation to raise awareness about PHNS's actual performance, to ensure that everyone shared a common understanding about the current state of affairs. While the presentation addressed concrete (and uncomfortable) topics such as customer dissatisfaction and poor teamwork, the Group of Eleven portrayed these difficult facts as important for developing a way forward toward addressing these shortfalls in the learning-organization framework.

LEARNING-ORGANIZATION ENABLERS

In addition to conducting training sessions to educate the shipyard workforce about core learning-organization concepts such as the five disciplines and how to build a learning organization through team learning, dialogue, and discussion, PHNS also established learning cells to facilitate workers' adoption of learning-organization concepts and practices.²⁰ Learning cells consisted of teams of people from various areas and levels of the command who wanted to think imaginatively about their future and came together to build better relationships with each other so there would be trust and openness among team members. They did so by engaging in free-flowing dialogue around specific topics such as team learning, brainstorming, and constructive dialogue that were designed to "suspend assumptions[,] . . . allowing the group to discover insights not attainable individually." Most of the insights that led to enhanced performance revolved around changing people's behaviors and interactions.

For instance, a learning cell involving workers who were striving to improve depot maintenance soon realized that the main obstacle to achieving this goal had to do with constructive dialogue rather than work schedules and budgets. Learning-organization dialogue principles revealed that many depot maintenance workers feared project meetings, especially if they needed to report bad news, since their project superintendent would use these meetings to berate them publicly and emotionally for poor performance. When the project superintendent discovered this, he realized that to improve his team's performance he would need to change his leadership style. Deciding to become what Senge refers to as a servant leader, he began to focus on how he could help his people become successful. He became more engaged with his team by walking around the

depot, asking people what they needed, and clearing roadblocks when necessary. These simple actions, combined with the continual learning that took place in the learning cell, transformed the depot-maintenance project team, resulting in completion of the shortest depot maintenance period of the last five maintenance periods at both public and private shipyards.

In addition to facilitating group learning and building trust and understanding, the cells were an expeditious way to effect change. Unlike other performance-improvement processes that the shipyard had implemented, such as Lean Six Sigma—which follows a regimented format, typically requiring several weeks to prepare for an event, a full week to conduct it, and a couple of weeks of postevent activities to complete the process—learning cells required much less time. (The effect of the earlier adoption of Lean Six Sigma is discussed in a later section.) In fact, an effective and efficient learning cell facilitator could prepare for a learning-cell gathering in a week's time. After meeting for a few days to identify, prioritize, and discuss issues, a learning cell generally would walk away committed to carrying out agreed-upon, concrete actions. Over time, learning cells became the primary learning-organization structure through which the shipyard made many improvements.

Brainstorming sessions with middle managers and supervisors from across PHNS also were held as part of the learning process. These sessions created an environment of openness and trust that allowed attendees to identify the range of diverse problems at the shipyard. During brainstorming sessions, participants wrote their problems on pieces of paper, taped the slips to a wall, and explained how they highlighted a particular problem. By the time several iterations had been completed for one particular brainstorming session, the problems identified covered a ten-foot section of the wall. Posting the problems in this manner achieved two important outcomes: (1) everyone could appreciate the seriousness of the situation at the shipyard, and (2) similarities and patterns concerning certain problems and their underlying causes became evident. The problems then were grouped according to focus areas that needed to be worked on. With a multiplicity of groupings on the wall, middle managers who participated in the brainstorming recognized that determining top-priority areas was essential. Accordingly, participating middle managers conducted a blind vote (to prevent bias). It identified three primary focus areas: problem solving, motivation, and teamwork. Each area would be targeted as part of the shipyard's learning-organization transformation effort.

Strong support from senior leadership was critical to facilitating the shipyard's learning-organization journey. Recognizing that it would take years for the shipyard to transform into a learning organization, Admiral Kirkland H. Donald, USN, the Director of Naval Reactors during this time, provided

essential top cover as the shipyard pursued its transformation journey. For example, Navy leaders from various commands were required to contact him personally first if they had any problems with the shipyard's performance. Because Donald rerouted these concerns, the shipyard was able to focus its full attention on transforming itself into a learning organization. Moreover, senior leadership's commitment sent a message to other commands that it fully supported PHNS's efforts in this regard.

Command leadership documented in shipyard instructions the steps needed to enable and assist the shipyard in its transformation effort but underscored the importance of leadership. Developed by the shipyard commander in conjunction with midlevel managers, the Command Leadership System served two primary purposes, as follows: (1) it aligned command leadership, and (2) it improved shipyard leaders' understanding of their multiple roles as leaders. The shipyard commander recognized that leaders' existing top-down, directive approach to leadership needed to change to foster the yard's growth as a learning organization. The instruction helped them do this by discussing the attributes of leaders serving in a learning organization, as described in the black book. It also included a description of the shipyard's existing organizational and governance structure to show the interrelatedness of departments and leadership within the entire system of the shipyard. Descriptions of various leadership governance boards and the role of those boards in making business decisions in the shipyard were included as well.

LEARNING-ORGANIZATION CHALLENGES

Moving from generating good ideas to implementing them is a challenge that most organizations must face, and PHNS was no different. Senge notes that “[o]ne thing all managers know is that many of the best ideas never get into practice. Brilliant strategies fail to get translated into action. Systemic insights never find their way into operating policies. A pilot experiment may prove to everyone's satisfaction that a new approach leads to better results, but widespread adoption of the approach never occurs.”²¹

According to the learning-organization model, the gap between thinking and doing stems primarily from mental models. In other words, new insights fail to be put into practice because they conflict with deeply held mental models of how the world works—models that limit us to familiar ways of thinking and acting.²² Middle managers at PHNS began to realize that their own mental models were preventing them from making the shipyard what they wanted it to be. They addressed this obstacle by creating the shipyard's first system archetype for organizational behavior, using the “limits to growth” archetype described in the black book. A *system archetype* is a pattern of structure that recurs again and again. The limits-to-growth archetype describes the interaction between a reinforcing

process (i.e., one that fosters growth) and its secondary effects that limit growth. Essentially, this concept of a system archetype helps people understand situations where growth bumps up against limits to growth.²³

By using the shipyard's limits-to-growth archetype, the group of middle managers who developed it soon recognized that, while activities such as learning cells, brainstorming sessions, and training did indeed promote learning-organization behaviors, they also limited growth. Because these activities were voluntary, and consequently were conducted on top of regular work responsibilities, they were offset "by the limit of growth of people who were not able to effectively manage their time." To remove this barrier to growth, middle managers responded by developing and conducting training on time-management techniques.

Another challenge to the shipyard's desire to become a learning organization was the Lean Six Sigma program. Recognizing the benefits of Lean Six Sigma methods and success in industry, in May 2008 Deputy Secretary of Defense Gordon R. England signed *DoD-Wide Continuous Process Improvement (CPI) / Lean Six Sigma (LSS) Program*, Directive 5010.42, which directed Department of Defense (DoD) services and agencies to adopt Lean Six Sigma to achieve continuous performance improvement.²⁴ Well ahead of DoD, PHNS began to implement its own Lean Six program in 2004—only two years before the introduction of learning-organization concepts. The use of Lean practices gave rise to many mental models about performance improvement that seemed to conflict with learning-organization concepts; it also created many misconceptions about learning organizations. This generated increased resistance to the learning-organization model, as evidenced by personal conflicts between those who supported Lean practices and those who supported learning-organization efforts. The existence of two performance-improvement models—not to mention the promotion of "high-performance organization" concepts only a few years earlier—made some people think that the learning-organization framework was simply the newest "flavor of the month." Predictably, this situation also created wide-ranging confusion.

Changes in leadership also presented a significant challenge to the shipyard's efforts to inculcate learning-organization behaviors. As those in leadership positions moved on to other positions and new leaders replaced them, it became apparent that those replacing the previous leaders did not share their mental models. This slowed the transformation process, since the new leaders were unable or unwilling to support the learning-organization transformation. To address this situation, PHNS employees who were committed to this transformation developed a workshop to reinforce learning-organization fundamentals that had been learned and integrated into shipyard operations and workers' personal development previously. This provided a support structure for new supervisors who were interested in these principles and who wanted to contribute to the

transformation of the shipyard. The workshop also served as a coaching tool for teams, since it helped them to benchmark their performance by monitoring the routine application of learning-organization behaviors.

LEADERS IN A LEARNING ORGANIZATION

The “word ‘leader’ has come to refer largely to positional authority, a synonym for top management. . . . [It implies] that the only people with power to bring about change are those at the top of the hierarchy, not those further down.” Regrettably, this notion (1) creates the belief that all those who are not at the top of the hierarchy are not leaders and, hence, have little ability to bring about change, and (2) oversimplifies the complex subject of “how to understand the diverse roles of leaders . . . and how to develop networks of leaders capable of sustaining deep change.”²⁵

The military possesses a cultural advantage in this respect, in that its culture encourages and fosters “leaders” at every level in the chain of command. For example, a young officer on a ship is given responsibility for leading and caring for people immediately after reporting aboard. This long-held cultural norm encourages risk taking and initiative at a very early stage in a career and provides fertile ground for encouraging a learning mind-set throughout the organization instead of simply at the top. Recognizing that initiating and sustaining profound change calls for different types of leadership, the leaders in a learning organization are designers, teachers, and stewards (described below). They also are present at all levels of an organization, as opposed to serving only in senior positions.

- *The leader as designer:* Customarily, shipyard leaders at PHNS often viewed themselves as part of the command-and-control system of the shipyard, prizing compliance and performing tasks and fulfilling requirements provided to them in written instructions. Essentially, they performed as directed according to shipyard rules, regulations, and norms, rather than seeing the shipyard as a living system and themselves as designers of that system.

In contrast, learning organizations have leaders “who appreciate organizations as living organisms.”²⁶ They see themselves as designers who can create “organizational artifacts” such as new metrics, innovative practices, guiding ideas, or formal roles and processes. More importantly, these leaders as designers recognize that what truly matters is what happens when people use those artifacts, practices, ideas, or processes to improve performance.

- *The leader as teacher:* Before the shipyard’s transition into a learning organization, shipyard leaders generally were reactive when confronted with problems—they looked for quick fixes. In addition, when problems with shipyard personnel occurred, these leaders often relied on the shipyard’s training program to sort them out rather than dealing with the people directly involved so they could understand the situation better.

In learning organizations, leaders as teachers understand the concept of *mental models*—that is, the underlying assumptions that shape followers’ behaviors and actions—and use this awareness to help others see problems in terms of underlying systemic structures rather than merely short-term events. The leader’s core task as a teacher is to “help people see reality as a medium for creating their visions rather than as a source of limitation.”²⁷

- *The leader as steward:* Shipyard leaders tended to focus primarily on the needs of their own individual organizations, and in doing so they created “stovepipes” within PHNS. Moreover, when a problem occurred, the phrase “stay out of the spotlight” commonly was heard among shipyard leaders, since personnel preferred to have someone else in the organization take the blame and criticism associated with the problem. In contrast, leaders as stewards in learning organizations do what is right for the entire organization; they serve a larger purpose.²⁸ When faced with a problem, these leaders work with others, taking the time to understand how the entire system is functioning and enabling those directly involved with the problem to develop long-term solutions.

In addition to recognizing the need for different types of leaders, PHNS realized that facilitating lasting behavioral changes at the shipyard would take a great deal of time. The leadership also recognized that measuring progress would require unique metrics different from traditional business measurements such as costs and schedules. Indeed, measuring progress would require taking into account personnel interactions and behaviors such as “changes in attitude, relationships, how people communicate with one another, passion, and commitment.”

CULTIVATING LEARNING-ORGANIZATION LEADERS

Creating a learning organization requires leadership that is not based on traditional hierarchy. Rather, it calls for a combination of different people from all levels of the system who lead in different ways and who are dependent on each other.²⁹ To this end, PHNS created a course to educate the entire shipyard workforce about learning-organization concepts. The three-day course, titled TALK 101, helped students learn about the five learning-organization disciplines, what they meant, and how they related to the shipyard.³⁰ What made this course impactful was not simply the information conveyed but the learning experience in which participants engaged. It was the first command-wide training course to assert that the command’s growth and improvement depended on the growth and improvement of its people as individuals (versus teams). To facilitate this critical individual development, TALK 101 encouraged personal reflection, conducted interactive group exercises, and incorporated personal testimonies from leaders across the command on how they applied learning-organization

concepts to improve themselves and the command. The workshop encouraged some participants to seek out gaps in their performance so they could improve on them to help improve shipyard performance. All these activities served to foster dialogue, which helped to start new relationships, strengthen existing ones, build trust, and improve communication skills. A nuclear business officer at the shipyard commented, “We all learned how to conduct a skillful dialogue to best share information and opinions.” This was especially relevant because poor communication and weak relationships between managers and supervisors had been flagged as a reason why leadership often was unaware of problems at the shipyard.

The Personal Mastery Executive Workshop (PMEW) was another way that PHNS cultivated leaders. It was developed in response to a significant “say-do gap” among shipyard leaders. While efforts to educate the shipyard workforce about learning-organization concepts were flourishing, this say-do gap among many in formal leadership positions hindered the overall transformation process. As the gap between leaders’ words and actions grew, doubts about the efficacy of becoming a learning organization arose, negatively impacting even those who truly were committed to the process. To eliminate this gap, the PMEW concentrated on aligning leaders with their roles and responsibilities as facilitators of organizational change at the shipyard. The weeklong workshop focused on the core competencies of leaders in a learning organization, highlighting the importance of establishing a vision and plans that supported organizational goals, such as increasing emotional intelligence, building trust, and effectively leading those who still were learning about the five disciplines and other aspects of learning organizations.

While leaders were cultivated, in part, through formal education and training, it became clear to the shipyard that performance-improvement activities such as these were successful only when participants committed to being engaged actively both during *and after* the events. To promote postactivity engagement, the shipyard created the “personal mastery support structure,” designed to foster continual learning. Leaders participating in the PMEW, for example, were required to speak with their supervisors on the last day of the workshop, declaring their commitment to the organization and explaining their plans for making progress in their individual areas of responsibility. This was followed by embedding their improvement plans into their performance objectives and organizational self-assessments, to ensure individual accountability. Peer-to-peer gatherings known as “reunions” also became part of the personal mastery support structure. These events provided a forum for first-line supervisors and their peers to sit with their department heads in an informal setting to discuss progress on supervisors’ personal-development plans, review course content,

and talk about other topics related to improving performance. Finally, mentoring relationships among peers (who became known as “accountability partners”) were another means to encourage sustained engagement, and thereby to enable the shipyard’s conversion into a learning organization.

IMPROVING SHIPYARD PERFORMANCE

Educating the shipyard workforce about learning-organization concepts and practices yielded improvements in three main areas: problem solving, motivation, and teamwork. Problem-solving capabilities were enhanced, for instance, by redesigning PHNS’s original Critique Program to align with the learning-organization disciplines of mental models and team learning. The Critique Program had existed to address unanticipated events that were problematic. PHNS unnecessarily employed a top-down approach to solving these problems, focusing primarily on holding people accountable for mistakes or failures rather than viewing these events as opportunities to learn. In contrast, by redesigning the program to take a bottom-up approach to problem solving and create a safe learning environment, the shipyard shifted from assigning blame to encouraging all workers to apply their critical-thinking skills to solve problems. Essentially, the program redesign changed team members’ mental models about the nature and purpose of a critique. No longer perceived as a mechanism simply to hold individuals accountable (which imbued a sense of negativity), critiques became an opportunity to learn from mistakes, as well as to leverage teams’ diverse and innovative approaches to solving problems.

This shift in approach resulted in an increased level of motivation and performance based on a shared vision. A noteworthy example of this concerned a project to repair USS *Olympia* (a *Los Angeles*-class submarine). In mid-June 2007, PHNS committed to NAVSEA to complete planned valve repairs to *Olympia* by 15 August. However, many at PHNS were concerned that this goal would not be achieved, since about 80 percent of the valve team—the marine machinery mechanics and supervisors assigned to the task—had less than one year of experience, while the production schedule would have been demanding even for an experienced, senior team.

The *Olympia* project-management team and Machine Shop 38 (the lead shop for this assignment) decided to introduce learning-organization principles to the valve team to ensure its success. Senior leaders briefed the mechanics on these principles and followed up by organizing workers-only brainstorming sessions at which mechanics were encouraged to speak up and discuss what they needed to do. The mechanics then developed and delivered a prioritized list of activities and needs to the project supervisor, which were acted on. For example, they identified a need for more space and help to stage the mechanics’

gear; a vacant enclosure was moved to the work area and additional tools were supplied. In addition to responding to workers' identified needs, "project management shared information about status, milestones, and schedules with workers in regular briefings and by posting charts." This enabled the workers to become part of the shared vision of "15 valves by August 15." Having a shared vision helped the mechanics (who generally had been assigned their work one task at a time) to understand the big picture—in other words, how an individual's job impacted other jobs and schedules. Another team was assigned to fast-track workers' ideas for improvements. All these efforts resulted in a noticeable trend as the work progressed, in which the mechanics became more familiar with valve repair and associated scheduling implications to the project overall and were motivated to improve their performance. In fact, the mechanics' performance improved to the point that they finished the project one day early and under budget.³¹

As one might imagine, mastering the learning-organization discipline of team learning (a discipline that builds on shared vision and personal mastery) improved teamwork at PHNS in significant ways. According to Senge, *team learning* is the process of aligning and developing the capacity of a team to create the results its members truly desire. A collective discipline, team learning has the following three critical dimensions: (1) it fosters collective intelligence; (2) it enables teams to act in spontaneous, yet coordinated, ways through "operational trust"; and (3) it promotes learning beyond one team to other teams.³²

In December 2014, PHNS was designated the "Corporate Lead Shipyard," responsible for executing a complex and critical repair on active nuclear submarines. A demanding process, the repair called for around-the-clock shifts six days a week for ten months, as well as for qualifying new and improved methodologies, such as compact Freon freeze seal, critical complex nuclear mock-up training, and multisubmarine team execution. In addition, all three of these methodologies required critical assessments and refinement of research and development, nuclear training, mechanical skills proficiency training, design of special tools, and personnel qualifications.³³ In short, the complexity and difficulty of this repair mission meant that if the shipyard was to succeed it would have to mature rapidly in its "productioneering"—team learning—efforts toward planning, training, and execution of critical, complex, and high-risk nuclear work.³⁴

Accordingly, the shipyard conducted a variety of activities, including a rapid-improvement event (RIE) based on team-learning dimensions. The RIE engaged deck-plate experts (e.g., mechanics, engineers, technicians, training instructors, and first-line supervisors) to increase ownership, improve self-accountability, develop improvement items and processes, and define team values. Doing so helped them define a vision for the mission. The RIE also taught critical thinking

skills and self-reflection, both of which facilitated individual and team improvement. In essence, “the RIE shaped a culture change that drove a new team battle cry, success is achieved through ‘T.E.A.M.’ = Tactically Executing Anticipated Movement.”³⁵ This culture change was evidenced by the team’s transparency, communication, and cohesiveness, which together demonstrated a discernible unity among multiple trades/shops and engineering codes.³⁶

TRANSFORMING THE SHIPYARD AND THE NAVY

By prioritizing the development of the key learning-organization competencies outlined in *The Fifth Discipline*—specifically, personal mastery, mental models, shared vision, team learning, and systems thinking—over the past ten-plus years, PHNS successfully changed its trajectory from a shipyard that was threatened with closure to one that excels in its mission of repairing, maintaining, and modernizing the U.S. Pacific Fleet. No longer responding to changes and problems in a hierarchical, stovepiped, and often reproachful manner, as they often had done before becoming a learning organization, shipyard leaders today leverage collective intelligence and experience to deal with issues that arise. They do this by continuing to practice learning-organization principles deliberately, both personally and with their teams. By eliminating the say-do gap often associated with effecting change, PHNS leaders not only model the behavior they seek in others but motivate shipyard workers at all levels to do the same. This has transformed the culture of the shipyard, enhancing its overall performance and increasing the satisfaction of its employees.

Senge’s learning-organization principles not only have assisted PHNS in becoming the organization it wants to be but also provide a possible framework for the Navy to transform its traditional command-and-control hierarchies to less-rigid structures that allow for rapid knowledge transfer, effective information sharing, and continual learning. The transparent and aspirational nature of a learning-organization culture also encourages humility and reflection—qualities necessary for adapting to the generational shift the Navy and industry are experiencing today. Learning-organization fundamentals can galvanize large groups of people and transcend generational differences by helping to generate a shared purpose (vision) to achieve the desired future. And finally, the five disciplines of a learning organization also promote adaptability—a critical attribute when dealing with the highly dynamic and complex environments of the twenty-first century. Considering the multiple and recurring benefits of cultivating a learning culture, Navy leaders might consider incorporating the five disciplines, or other frameworks that facilitate continuous learning, as a way to transform their organizations into the ones they seek.

NOTES

- The authors thank Ryan Ongie and Melissa Lamerson—who experienced firsthand the shipyard’s journey to becoming a learning organization—for sharing this story. Their time, dedication, and commitment to helping the Navy improve in all it does contributed significantly to the shipyard’s transformation. All factual material about the operations and evolution at PHNS that is not otherwise documented in this article is drawn from unpublished accounts prepared by Ongie and Lamerson, augmented by multiple discussions with them conducted from September 2016 to June 2018.
1. The epigraph is taken from James B. Stockdale, “Machiavelli, Management, and Moral Leadership,” in *Military Ethics: Reflections on Principles*, ed. Malham Wakin [Col., USAF], Kenneth Wenker [Col., USAF], and James Kempf [Capt., USAF] (Washington, DC: National Defense Univ. Press, 1987), p. 39.
 2. Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (Glencoe, IL: Free Press, 1960).
 3. Williamson Murray, *Military Adaptation in War: With Fear of Change* (New York: Cambridge Univ. Press, 2011), pp. 1, 3.
 4. Williamson Murray, *Military Adaptation in War*, IDA Paper P-4452 (Alexandria, VA: Institute for Defense Analyses, 2009), p. 1-3, available at www.au.af.mil/.
 5. Rod Korba, “The Dilemma of Defense Innovation and Adaptation,” *Small Wars Journal*, 22 November 2016, smallwarsjournal.com/.
 6. The definition of *culture* often is debated. In this article the term refers to common ways of seeing an environment, as well as shared values, priorities, norms, and meanings. It is learned, not inherited, and derives from one’s social environment.
 7. Joseph L. Soeters, Donna J. Winslow, and Alise Weibull, “Military Culture,” in *Handbook of the Sociology of the Military*, ed. Giuseppe Caforio (New York: Springer, 2006), p. 240; Murray, *Military Adaptation in War: With Fear of Change*, p. 2.
 8. Murray, *Military Adaptation in War: With Fear of Change*, p. 18.
 9. James MacGregor Burns, *Leadership* (New York: Harper and Row, 1978), p. 4.
 10. John M. Richardson [Adm., USN, CNO], *A Design for Maintaining Maritime Superiority, Version 1.0*, Navy.mil, January 2016, p. 7.
 11. “Pearl Harbor Naval Shipyard & IMF,” *Naval Sea Systems Command*, www.navsea.navy.mil/. In December 1945, Navy Yard Pearl Harbor was renamed Pearl Harbor Naval Shipyard.
 12. Dwight Jon Zimmerman, “Battle of Midway: Repairing the Yorktown after the Battle of the Coral Sea,” *DefenseMediaNetwork*, 26 May 2012, www.defensemianetwork.com/.
 13. Roxana Tiron, “BRAC Panel Relents on Closing Pearl Harbor,” *The Hill*, 20 July 2005, thehill.com/.
 14. “Powering the Navy,” *National Nuclear Security Administration*, www.energy.gov/nnsa/missions/powering-navy/.
 15. David A. Garvin, “Building a Learning Organization,” *Harvard Business Review*, July–August 1993, hbr.org/.
 16. Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (New York: Doubleday, 2006), p. 14.
 17. *Ibid.*, p. 10. According to Senge, a *discipline* is “a body of theory and technique that must be studied and mastered to be put into practice. . . . [It] is a developmental path for acquiring certain skills or competencies.”
 18. *Ibid.*, p. 12.
 19. Hon. Michael Bayer and Gary Roughead [Adm., USN (Ret.)], *Strategic Readiness Review* (Washington, DC: U.S. Navy Dept., 2017), p. 74, available at s3.amazonaws.com/CHINFO/SRR+Final+12112017.pdf.
 20. See Senge, *The Fifth Discipline*.
 21. *Ibid.*, p. 163.
 22. *Ibid.*
 23. *Ibid.*, pp. 94–95. The definition of a *limits-to-growth archetype* is as follows: A reinforcing (amplifying) process is set into motion to produce a desired result. It creates a spiral of success, but also creates inadvertent secondary effects (manifested in a balancing process), which eventually slows down the process.

24. U.S. Defense Dept., *DoD-Wide Continuous Process Improvement (CPI) / Lean Six Sigma (LSS) Program*, DoD Directive 5010.42 (Washington, DC: 15 May 2008), available at www.esd.whs.mil/.
25. Senge, *The Fifth Discipline*, p. 319.
26. *Ibid.*, p. 321.
27. *Ibid.*, p. 331.
28. *Ibid.*, p. 334.
29. *Ibid.*, pp. 317–35.
30. TALK is an acronym for “thinking and learning *kakou*.” *Kakou* is a Hawaiian word meaning “we’re in this together.”
31. Marshall Fukuki, “15 Valves by August 15,” *Shipyards Log*, November 2007. The *Shipyards Log* is a PHNS publication that is no longer available online.
32. Senge, *The Fifth Discipline*, pp. 218–19.
33. Jantzen Nishikawa, “Productioneering Personified,” *Shipyards Log*, March 2016, p. 4.
34. *Ibid.* Originating from the words *production* and *engineering*, *productioneering* is PHNS’s method of capitalizing on the talents and collaborative relationships of its diverse workforce by practicing the discipline of team learning.
35. *Ibid.*, p. 5.
36. As a result of efforts to enhance team learning, the conversion team experienced numerous successes, including in the following areas: safety (zero safety incidents), quality (first-time quality), radiological exposure (30 percent improvement from first- to second-time execution), schedule (35 percent improvement from first- to second-time execution), and cost (43 percent improvement from first- to second-time execution).