

NAVAL ACADEMY SAILING
OFFSHORE SAIL TRAINING SQUADRON
EXPERIENTIAL LEADERSHIP GUIDE



FOR
OFFSHORE CAPABLE SAIL TRAINING CRAFT
AT
THE UNITED STATES NAVAL ACADEMY

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DIRECTOR NAVAL ACADEMY SAILING NOTICE 3120

From: Director, Naval Academy Sailing

Subj: NAVAL ACADEMY SAILING OFFSHORE SAIL TRAINING SQUADRON (OSTS)
EXPERIENTIAL LEADERSHIP GUIDE

Ref: (a) DNASINST 3120.1 series, Standard Operating Procedures (SOP) and
Regulations Manual for U.S. Naval Academy Sail Training Craft
(b) Boat Information Book (BIB) for U.S. Naval Academy Navy 44 Sail Training Craft
(c) Navy Sailing Summer Cruise Program Operation Order (OPORD)
(d) DIVPRODEVINST 3530.2 series, Sail Training Craft (STC) Navigation Standards

Encl: (1) OSTs Experiential Leadership Guide

1. Purpose. To promulgate the Experiential Leadership Guide to be used aboard offshore capable Sail Training Craft (STC) of the U.S. Naval Academy involved in the offshore sail training squadron (OSTS) cruises.

2. Background. The Naval Academy conducts MIDN sail training aboard a variety of STC. This notice augments guidance contained in references (a) through (d), and guides the professional sail training of MIDN.

3. Action. The actions described within this experiential leadership guide, Enclosure (1), should be viewed as recommendations. They are to be implemented by individual STC Skippers/ Coaches consistent with their judgment for their individual MIDN crew, and the goals of Naval Academy Sailing.

4. Feedback/Changes. Any person who finds omissions or has recommendations for changing any part of this notice may submit the feedback to the Director, Offshore Sail Training Squadron.



L. SPANHEIMER
Director, Naval Academy Sailing

Distribution:
OSTS Skippers and Executive Officers

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OFFSHORE SAIL TRAINING SQUADRON (OSTS) EXPERIENTIAL LEADERSHIP GUIDE (ELG)

Preface.

Leadership training supports the United States Naval Academy Midshipmen (MIDN) to be professional officers in the naval service. The Offshore Sail Training Squadron (OSTS) employs sailing as the vehicle for leader development. The primary objective is providing hands-on, personal experience in the principles, application and challenges of small unit leadership. Small unit leadership is normally the first responsibility of new Navy and Marine Corps officers and is a sine qua non of their professional development. Each Midshipman is responsible for their own performance and, if senior, the performance of their subordinates. They are also responsible for equipment that is central to their success at sea. OSTS leadership experience transfers directly to service in the Fleet.

This Guide is intended as a working reference and instructor guide for D-qualified Skippers and Executive Officers (XOs) preparing for a summer deployment (a.k.a. cruise block). The primary objective is creating a successful leadership experience for the group of MIDN they are coaching.

Selected leadership principles taught in the academic curriculum are summarized and linked to responsibilities and practices on board a large Sail Training Craft (STC). It also contains a number of personal experiences (“sea stories”) and practices on board a large Sail Training Craft (Sand practices of effective leadership).

The ELG does not replace any of the written instructions or procedures. It is a hands-on resource for maximizing the scarce training time available to Skippers and XOs. If used as intended, this guide will help to es, applinalize” the leadership principles that MIDN learned in the classroom, and promote the type of experiential leadership that is the hallmark of the Naval Academy.

To make the most of this guide, Skippers and XOs should:

Read “Preparing for Deployment: (Chapter 3) as you plan for your training block to help design an effective crew structure that will maximize the leadership experiences through billet assignments and work parties.

Review “Reinforcement of the Leadership Experience” (Chapter 4), “Principles of Leadership” (Appendix A), and “Exercising Leadership” (Appendix B) prior to deployment to incorporate the leadership principles and skills that are a formal part of Midshipmen training into your coaching instruction. Give particular attention to the importance of setting and enforcing high standards of performance and using active reflection as an essential tool of building and guiding a team.

Incorporate the Lessons Learned (Chapter 5) into your coaching experience, when possible. Ask MIDN to read, analyze and discuss selected case studies in the course of the training to emphasize specific leadership skills and situational awareness.

For further information on the Experiential Leadership Program, or to recommend changes to this guide, please contact the Robert Crown Sailing Center:

Ms. Renee Mehl
United States Naval Academy
Director, Offshore Sail Training Squadron
(410) 293 5610
mehl@usna.edu

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1.0 INTRODUCTION TO EXPERIENTIAL LEADERSHIP

Leadership is learned most effectively by personal experience. Specifically, the desired experience includes real world consequences and results, experimentation in actively influencing others and situations, and personal reflection on the experience, goals, and priorities. Academic research and literature on leadership development substantiate that experiential opportunities in which leaders must actively practice their craft provide the most meaningful and enduring lessons of leadership.

In an ideal situation, the novice leader understands the task and the desired outcome, is afforded the means and responsibility to execute the task, and then pursues the task to an end result. He or she would be allowed to fail with real world outcomes and impact – not just a graded exercise or subjective critique. The balancing act allows room to “fail” while minimizing unacceptable impact (personal injury, compromise of mission, or material damage).

“Nowhere else at the Naval Academy can Midshipmen experience a team environment where the consequence of failure can be catastrophic. OSTS provides an environment controlled enough to bring everyone home safely, but only if the MIDN think critically, “pull their weight,” and exhibit competent initiative. The MIDN quickly realize this and, given the opportunity, will always rise to the challenge and achieve greatly. As Skippers and XOs, it is our responsibility to provide that opportunity.”

- OSTS Skipper

1.1 HISTORY

Early Naval Academy efforts involving the academic concept of experiential leadership occurred in 2004 with a collaborative summer training endeavor with the National Outdoor Leadership School (NOLS). NOLS focuses on leadership experience in an environment of wilderness expeditions ranging from sea kayaking in Alaska to mountaineering in Wyoming. NOLS promotes effective teamwork and leadership by defining four roles for expedition members (designated leadership, active followership, peer leadership, and self-discipline). Nine skills are expected: competence, judgment, decision-making, expedition behavior, communications, tolerance for adversity and uncertainty, self-awareness, vision, and action.

When integrated with the Naval Academy goals; the NOLS skills of judgment, decision-making, expedition behavior, communications, tolerance for adversity and uncertainties have provided valuable reinforcement of the Academy’s core values and attributes of graduates. Since 2004 more than 1,500 Midshipmen have attended NOLS-USNA courses, and the initiative has grown to 14 separate NOLS-USNA courses (types of expeditions).

The roots of the current Offshore Sail Training Squadron (OSTS) program date to 1940 when the Naval Academy procured the first three wooden Luders class yawls ALERT, INTREDPID and RESOLUTE. From the beginning, these boats provided realistic and valuable summer experience that reinforced classroom instruction in seamanship, navigation, and similar skills. Leadership training happened on the initiative of individual skippers within the program. There was little focused or coordinated effort to address the leadership opportunities for MIDN inherent with preparing for deployment and operating each STC at sea (with the exception of MIDN Skippers and XOs).

Late in 2010, several OSTS volunteers initiated an effort to bring leadership to the forefront and focus on these opportunities for all MIDN participating in OSTS. This was supported strongly by the Director OSTS and by the Division of Leadership Education and Development. The vision from the outset was to

place meaningful responsibility for execution of an OSTS block in the hands of the Midshipman crew by linking the academic curriculum to existing on-water practices within OSTS. One of the XO volunteers in the summer of 2010 was also a key player in the NOLS program and the parallels between NOLS and the emerging OSTS Leadership program were substantial and intentional.

The Division of Leadership Education and Development also undertook several extra-curricular and co-curricular activities to enhance the concept of experiential leadership. Feedback on the OSTS Experiential Leadership and on-water experience from OSTS participants during the summer 2011, both in formal post-block critiques and word of mouth, was very positive. The momentum was building and “experiential leadership” gained broader recognition across the Yard and was subsequently recognized and supported in the priorities of the Commandant of MIDN and the Superintendent of the Naval Academy.

The implementation of the experiential leadership concept is unique in each application or activity. A Department of Leader Development and Research was established in 2011 with responsibility for further development and coordination of the concept for the Naval Academy. In addition to OSTS, experiential leadership has been introduced for the MIDN leaders of the Plebe Summer Detail and is in process for the YP Squadron / summer program and for captains of varsity athletic teams.

Experiential leadership is currently a central focus of OSTS summer training blocks. In recognition of the role that OSTS has played in the promotion of experiential leadership across Naval Academy activities, the Director of Naval Academy Sailing has put into practice this “Experiential Leadership Guide”. This guide is intended to facilitate the transfer of academic concepts of leadership to the experience of leading on the water, and to promote the reflection process so critical to making sense of the experience for developing leaders. Finally, this guide is designed to work hand-in-hand with established Navy Sailing polices and directives, standard operating procedures (SOP), boat information books (BIB), and vessel-specific technical manuals.

2.0 TEACHING AND COACHING FUNDAMENTALS

2.1 DISCUSSION

The OSTs sailing leadership program emphasizes the active engagement of MIDN through structured work, guided by the instructor or coach (i.e., Skipper and Executive Officer (XO)). The sail training curriculum builds upon the premise that MIDN benefit from learning by doing and that class time both ashore and afloat should be used to help MIDN build on their leadership skills through the active sailing of a large sailing vessel and managing a crew of peers. To that end, class time is built around highly structured activities, in which MIDN work to solve problems, interpret data or evidence, take action, or otherwise engage in real practices afloat. This work is frequently done as a crew, with the Skipper and XO circulating and safely guiding the learning process.

Naval Academy Sailing uses the U.S. Sailing training curriculum as a standard for sail training and instructional methods. A good reference guide for teaching and coaching sailing is the U.S. Sailing instructor guide *Teaching Fundamentals for Sailing Instruction*. To summarize the first chapter, How People Learn:

- No two students of sailing are exactly the same. Everyone is different and learns at different rates.
- Each student brings a unique combination of background information, skills, hopes, fears, motives, and naïve talent.
- Left to your own devices, new untrained instructors are often inclined to teach sailing the way they learned it themselves.
- Different people learn differently, including instructors.
- Teaching methods that once helped you to learn may not be effective for all of your students.
- If a student does not learn, the teaching is ineffective.
- The instructor only succeeds when the student does.

Teaching Fundamentals for Sailing can be borrowed from staff at Robert Crown Sailing Center. It can also be purchased from U.S. Sailing through <http://store.ussailing.org>

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3.0 PREPARING FOR DEPLOYMENT

3.1 INTENT

The intent of this chapter is to provide guidance to Skippers/XOs preparing for a summer deployment with a crew of MIDN. Going to sea is all about planning and preparation. Success will be determined by how well you as the Skipper or XO maximize the things that can be controlled (voyage planning, chart preps, crew training, materiel condition, etc.), and readiness to minimize effects of things that cannot be controlled, weather and boat casualties as examples.

This chapter is designed to assist Skippers/XOs in attaining the leadership objectives of the sail training program. Upon completion of the summer cruise, MIDN will:

- Recognize the positive contribution of the experience to their leader development as future military officers;
- Be able to articulate the application of a leadership concept learned in the classroom to a specific experience during the summer sail;
- Practice greater skill in reflection about leader experiences (their own and others);
- Think more critically about the factors that affect mission accomplishment;
- Manage risk with greater confidence; and,
- Improve emotional intelligence, including emotional self-awareness and self-regulation.

3.2 PLANNING

Time spent preparing and planning IS time well spent. The time spent thinking about “what if” will help keep a crew out of situations that have the potential to “go south” quickly, and could result in dramatic sea stories. Such stories often come about because of not planning ahead or failure to anticipate situations.

It is not a question of IF something will not go according to plan, but WHEN. Be prepared to shift from plan A to plan B, plan B to plan C, or even from plan C to plan D.

Planning the details of the deployment is an essential coaching activity. Robert Crown Sailing Center will provide support for the transit including weather overview, navigation directions, docking, lodging, supplies and repairs. However, as a Skipper/XO, you must still have a thorough plan A, with alternatives in your hip pocket.

The following are basic navigation and voyage planning considerations for all Skippers/XOs:

What is an acceptable speed of advance (SOA)? Five knots has been reasonable. Is the speed of advance (SOA) consistent with intended estimated time of departure (ETD) Annapolis, and estimated time of arrival (ETA) remote port? Are there windows or limitations at the remote port for ETA/ETD?

What is the plan for early or late arrival? And what is impact ashore of an early or late arrival? How will the ocean offshore wind forecast or currents (Gulf Stream) affect SOA en route?

There are digital programs available (e.g., Navionics, SeaClear, OpenCPN, and ActiveCaptain) that aid in defining each possible track and determining distances to help evaluate and compare required SOAs for given ETD/ETAs on each proposed track.

Are there logistics considerations? What additional logistical requirements need to be in place for a remote port that is not a Naval installation? Factors to consider when refueling at a remote port: Charts, depth of water and navigation to the intended fuel dock, days/ hours of operation, communications with fuel facility (VHF and phone), and method of payment.

Safe havens along the routes? Charts required? There may be an emergency or other set of conditions that warrant entering port or anchoring.

What resources exist within own squadron to assist in the planning (and later during execution)? Weather knowledge, navigation experience, currents en route, boat mechanical/ electrical know-how, local knowledge of area to be visited are examples.

What resources are available within Navy Sailing for planning? Other skippers of other boats may have already visited your designated port. There are port binders of some ports that have been visited available at RCC.

What resources are available at the remote port to assist in planning? Who is your host organization and point of contact (POC)? What local knowledge can the POC provide ahead of your arrival? Detailed local navigation information, including chartlets, can assist in evaluating locations for fueling and planning entry into the remote port.

Up to date information is essential. If the Coastal Pilot publication or local cruising guide, for example, is vague with regard to depth in an area, or if you do not have a well detailed safe haven chart, or the chartplotter chart chip is not current within the last 2 years or so, or there is no access to any local knowledge, then don't chance anchoring in that location. Consult the other Skippers of the squadron for their ideas. Local information is very useful in making decisions relative to anchoring. Weigh all options, then choose the safest alternative.

The squadron Navigation Boat will brief the squadron prior to departure based on direction from Robert Crown Sailing Center and current weather conditions. It is important that crew of each vessel in the squadron closely and critically scrutinize the navigation plan. Each STC should plan and monitor their own navigation plan at all times, including when traveling in column. Your planning should be thorough enough that your boat could assume the duties of the squadron Navigation Boat at any time.

You may not be able to plan for every incidental challenge in route; but at least identify safe havens, fueling locations, and anchorages along the route. Also, know your assigned buddy boat.

Arrival time is important, but navigation and squadron safety trump all.

Have a plan A; but also plan B, C, D, etc. in your hip pocket for both likely and unlikely events.

Maximize what you can control. Minimize what you cannot.

3.3 TRAINING SCHEDULE

The summer Operation Order (OPORD), ref (c), governs the conduct of the summer offshore sailing program. The OPORD complements and supplements the requirements contained in the Standard Operating Procedures, ref (a).

Annex C of ref (c) lays out the required block training objectives and crew certification requirements. Programmatic goals are to have every Midshipman qualify as Senior Crew, and complete D-qual requirements toward leadership positions of Watch Captain, XO or Skipper as applicable. Skippers/XOs are responsible to OSTS Program Director and DNAS for successful completion of each training phase.

Typically, the summer cruise block is broken into three distinct training periods, each of which provides opportunities for leadership within the crew, as outlined in the next chapter on Crew Organization.

- Week 1 is classroom/practical training focusing on navigation, sail theory, safe line-handling, chart preparation and includes Navy 26 refresher training for 2/C, along with navigation practice for 3/C.
- Week 2 is underway training onboard the Navy 44 to learn and become proficient in essential basic maneuvers, develop teamwork, and introduce the crew to watch standing and provisioning. This phase of training is certified with a check-ride during the 48 hour underway.
- Weeks 3 and 4 are the offshore deployment periods that focus on leadership development and training while underway, and while participating in various activities at remote ports.

3.4 CREW ORGANIZATION

The SOP, ref (a), defines specific billets and responsibilities. These billets create the opportunities and expectations for MIDN to exercise leadership and initiative. In most cases, MIDN may be assigned multiple billets. In summary these billets are:

Skipper (Coach)
 Executive Officer (XO) (Coach)
 (2) Watch Captains (senior MIDN)
 Navigator (senior Midshipman)
 Assistant Navigator (senior Midshipman)
 Engineer
 Supply Officer
 First Lieutenant / Bosun
 Electrical Assistant
 Damage Control Assistant
 Operations or Training Officer (Optional)

At any given time, crew members on watch underway will be performing the specific duties required to keep the STC sailing safely and effectively, or properly moored and secure while in port. Crew will be organized into Port and Starboard watch stations. The duties of each watch station must be expressly assigned to specific individuals. Underway watch stations include:

Watch Captain
 Helmsman
 Lookout / Sail Trimmer
 Navigation Plotter
 In Port (remote) watches include:
 Duty Officer
 Security Watch

The experiential leadership expectation is that early in the cruise block, MIDN will receive direction from the Skipper or XO. However, on the return trip home from a remote port, MIDN should be making the vast majority of the watch standing decisions with the Skipper and XO acting as safety observers and mentors. The Skipper and XO are resources and coaches for MIDN in learning and carrying out their responsibilities, but the expectation is that the MIDN will be managing and sailing the vessel. The Skipper and XO should concern themselves with safety, MIDN skill training, leadership opportunities, coaching, and mentoring. Emergent issues should be assessed by the Skipper or XO, and then delegated to an appropriate MIDN for action. In reading billet responsibilities, there are references to MIDN skill training, leadership opportunities, coaching, and mentoring. Emergent issues should be assessed by the initiative and leadership.

Billeted duties are typically assigned for an entire cruise. For example, even when the Navigator is “off watch” he is responsible to the Skipper for the safe navigation of the STC. This impresses upon MIDN the concept that responsibilities of a naval officer do not stop while “off watch”. While MIDN shouldn’t be expected to do all the work associated with their billet, they should be expected to ensure that work is done properly. For example, the First Lieutenant may assign other crew members tasks to prepare to anchor while he performs other duties. The First Lieutenant would ensure those crew members knew the proper procedures and have the proper materials. Those MIDN assigned duties from the First Lieutenant should be expected to follow his direction, perform the work, and report back to the First Lieutenant. The First Lieutenant would ensure the work is done correctly and determine readiness before then reporting to the Skipper or Watch Captain.

“Everything we do can be categorized as a part for one or more billeted duties. When something needs to be done, I go to the Midshipman responsible.

If the head was clogged, I addressed the issue with the DCA [Damage Control Assistant]. If she was on watch, we would either wait until she was off watch or she would get a relief from the other watch section. I didn’t expect her to be the only person doing the work because some jobs just take more [Assistant]. If she was on watch, we would either the BIB and SOP for any applicable drawings or procedures. She would brief me on what she found and what she was going to do about it. She might then brief an off-watch person in what to do, show them the procedures, and then she might go back on watch and have the off-watch person do the work and report back to her. She would be a resource for the person doing the work and she would check the work when it was finished. She would then report back to me. This allowed the DCA to still be responsible for the issue, but allow others to learn about the system. I never wanted only one person to know how to do something, since you can easily lose a person to sea-sickness or other issue without warning.

Another example: evolutions like anchoring take almost the whole crew, but I expected the 1st LT to be in charge of organizing the labor and the know-how. He briefs me and the crew on what we will do. If he needs help, he and I have a private discussion until he has learned enough to be ready – then I empower him to lead the effort.

Promoting “ownership” of duties and systems gives Midshipmen a clear reason to care about certain things and helps to spread the workload. The MIDN know how to (and will) distribute the workload fairly, but you have to give them the authority and autonomy to do so. Once the MIDN are taking care of many issues on their own and can organize themselves, it allows the Skipper and XO to properly fulfill their role as safety observer.”

- OSTS Skipper

The recommended organization defines responsibilities and uses terminology common in a small surface combatant.

- Two billets are defined in the SOP as the Skipper and Executive Officer (XO). These billets are filled by the Director, Naval Academy Sailing (DNAS), and can be a D-qualified Naval Academy Sailing Volunteer, Active Duty or 2/C or 1/C MIDN.
- Seven billets are defined in the SOP (Navigator, Assistant Navigator, First Lieutenant, Supply Officer, Engineer, Electrical Assistant, and Damage Control Assistant). Experience has shown that additionally designating an Operations Officer and/or Training Officer are desirable for managing the overall OSTS workload, so they are listed as optional billets.
- Ideally, eight MIDN will be assigned to an OSTS crew; four upper class and four third class.

The two senior MIDN should be assigned underway watches as Watch Captain. Even if you have more experienced or competent crew members, you should err on the side of selecting the senior MIDN; however, if one of your senior MIDN is grossly inexperienced or lacks what it takes to safely manage a watch team, do not hesitate to select the next senior MIDN in line.

“Two of my senior (2/c) MIDN were being considered as Watch Captains. One of these MIDN could clearly lead a team, even though he didn’t have a lot of sailing experience, but I had doubts about the others ability because of what I had seen during the first week of sailing in the Severn. Given the general inexperience of the entire crew (only 1 had ever sailed before), the inexperience of my XO, and my own inexperience (it was my first time to skipper), I decided to make one of my most competent 3/c Midshipman a Watch Captain. This allowed both the “unselected” 2/c and the “promoted” 3/c to grow because the 2/c needed to learn more and the 3/c could learn more about training others (as opposed to being very good, but not helping others). It also allowed me to empower the competent 3/c who might otherwise be “silenced” by someone of greater authority, even though the 3/C could better act to keep the boat and crew safe. Halfway through the cruise, I shifted Watch Captain to two other MIDN who had, after two weeks of sailing, learned enough to be in a position of leadership.

- OSTS Skipper

The next senior MIDN should fill the billets of Navigator and Assistant Navigator. Consider ensuring that one of these MIDN (Navigator or Assistant Navigator) has a good understanding of Navigation. Not all MIDN understand navigation, despite the academic training. Your NAV and ANAV will work as a team, and it’s OK if one is relatively weak as long as the other can pull them along. Pay close attention to balancing the navigation abilities of your watch teams. OSTS is one of the best ways for MIDN to learn how to actually navigate. It may be their first truly practical navigation experience. Build watch teams that can not only keep the boat safe, but also can help MIDN learn from each other.

The billets of Engineer, Supply Officer, First Lieutenant, Damage Control Assistant, and Electrical Assistant should be assigned to MIDN other than those serving as Navigator and Assistant Navigator. These assignments also include the MIDN designated as underway Watch Captains.

In determining billet assignments within the crew, the following two techniques have been used to enhance a sense of responsibility and ownership on the part of the MIDN:

Provide the list of billet descriptions to the crew and answer questions about billet responsibilities. Then have the MIDN determine billet assignments between themselves.

Provide prior to first crew meeting, billet descriptions and have each Midshipman respond with a rank-ordered list of preferences. Do not give any constraints and see where interests lie. Also get to know a little bit of personal information about each of your Midshipman to help in the billet assignment process. The Skipper and XO can then determine and have each Midshipman respond with the current DNAS guidance previously discussed.

“Depending on the situation, I like to assign duties to individuals with weak experience in that realm. I typically make the person weakest in engineering the Engineer. This allows that person to learn more about engineering, and forces them to rely on other crew members with more experience. Those other crew members must learn to help the weaker person who is in charge. This helps bring

the team together and increases the likelihood that they all know a little bit about each other and for

This is very similar to how they will be assigned duties in the Navy (it tends to be random and without preference). As an Officer, they will have to be responsible for things that they might not understand very well and be in charge of people that know a lot about those things. They must learn to deal with that discomfort. They must work harder to obtain a level of understanding that will truly allow them to effectively supervise and lead.”

- OSTS Skipper

At the initial muster, the crew can be organized into the following working parties:

ADMIN Party: Skipper, XO
 SUPPLY Party: XO or other designated driver, SUPPO
 1LT Party: 1LT, ENG, DCA/AENG
 NAV Party: NAV, ANAV, EA

The working parties will each require help at various times (e.g., the NAV will need “all hands” help during chart preparation, the SUPPO will need help on the inventory, purchasing supplies, stores and storage, and the First Lieutenant will need additional hands to haul out, lay out, inspect, repair and reload sails). It is the work parties’ responsibility to cooperate with one another – without having to remind them or intervening.

Table 1 on page 17 is a Sample Cruise Block Preparation Schedule which defines responsibilities and tasks for preparing the STC for deployment. The tasks and responsibilities are all valid. The specific days and times should be adjusted to fit the schedule for a specific cruise block. Tell the crew that they are responsible for accomplishing all the tasks on the checklist within the specified time frames. This establishes the crew members' individual and corporate ownership of, and accountability for the vessel from the very beginning.

Also distribute the billets such that each department is represented on each watch section. For example, if the NAV is on the starboard watch, the ANAV should be on the port watch. This offers two advantages: There is someone on each watch section available and responsible to train and supervise the watch in each specialty. This further enhances peer training, norm development and crew cohesion.

It facilitates inter-watch competition on navigation, boat handling, maintenance and housekeeping.

3.5 TEACHING TECHNIQUES - PEER TRAINING

Peer training is an educational practice in which students interact with other students to attain educational goals.¹ The techniques described here have been used to one degree or another by experienced Skippers/XOs. They are provided as recommended “good practices” that have produced positive results on at least two levels: effectiveness of training and providing leadership experience.

MIDN should play an active role in training; that is, provide training rather than just receive training. This shift of roles, from receiving instruction (passive) to providing instruction (active), requires focus, thought, review and engagement. Additionally, MIDN may accept advice and correction more openly from peers - rather than critique always coming from an authority figure (Skipper/XO); or, some MIDN accept advice much less openly from peers, but they need to get comfortable with peer training. While the pace of training may seem slower using crew members as instructors, it is suggested that overall results are (significantly) improved.

¹ O'Donnell, A. M.; A. King (1999). *Cognitive perspectives on peer learning*. Lawrence Erlbaum. ISBN 0805824480.

At the outset of an OSTTS block, an immediate requirement is to train the crew to perform a number of basic evolutions. Examples include undocking, docking, tacking, jibing, and crew overboard. Logically, every crew member should perform tacks and gybes as Helmsman. This evolution is used to illustrate an example of peer training.

The Skipper/XO instructs a crew member on tacking as Helmsman. After one/ two/ several repetitions and coaching by the Skipper/ XO, the helm is turned over to a second crew member.

The first individual becomes the trainer for the second person; initially instructing his counterpart on the evolution, and then coaching / critiquing the second's performance during repetitions.

The Skipper/XO retains oversight.

This sequence of Midshipman training shipmate is followed until all crew members have completed tacking as helmsman.

This practice can be used for additional evolutions as helmsman, or for other positions (ex: Mast when taking or shaking a reef).

Another technique of peer training is role playing for common situations. An example is VHF radio communications with another ship in a contact avoidance scenario. In descriptions of billet responsibilities, the Navigator (or the Operations Officer) is assigned responsibility for training crew members in radio operations. In the following example, the Skipper/XO assigns the Navigator or XO as the trainer for the crew. Training should include operational use and normal practices.

The Skipper/ XO reviews a typical contact avoidance scenario with the Midshipman trainer. If possible, the trainer has been on deck previously for a real world encounter.

The trainer then develops a situation (ex: contact (tug/merchant/fisherman); own course, contact bearing, bearing change, range, target angle, possibly navigation light configuration during a night scenario. The trainer would describe or talk through the encounter with the full crew, or watch section, which may be preferable.

The trainer assigns individuals as role players (Helm, Navigation Watch, pilot on merchant or tug master as examples) and proceeds through the encounter using normal radio procedures, expected terminology and correct radio discipline.)

Within descriptions of billet responsibilities are several instances in which the incumbent is designated to train the crew in common boat operations that everyone one will perform at one time or another (ex: Supply Officer trains crew in operation of the galley range, DCA trains crew to operate the head). Again, it is appropriate that the Skipper/XO walk the designated individual through the evolution and then require that individual train each of his/her shipmates, and to follow up if poor practices or incorrect operations are noted.

3.6 STC OPERATIONS -- WATCHSTANDER COORDINATION AND COMMUNICATIONS

Knowledge and competent execution of the responsibilities of individual watch stations creates the foundation of an effective watchstanding team, which in turn allows Skippers/XOs to maximize the experiential leadership experience for MIDN.

For a watch section to operate safely and effectively, routine communications and continuing interaction between watchstanders in all situations are critical.

The following communications between watchstanders are recommended so that the watch section functions as an integrated team. These should be viewed as minimum expectations as situations can and will create challenges not anticipated during training. A continuing and comprehensive flow of information between watchstanders is expected at all times to ensure safe and competent operations.

Watch Captain:

Works with the Navigation Plotter to communicate intentions of the watch (i.e., route, PIM, etc.).

Collects information from all watch standers to maintain the “big picture”.

Reports to Skipper/XO on mission progress and obstacles, and overall well-being of their watch section.

Typically the on-watch Watch Captain assigns the on-watch crew their watch stations and manages the rotation of those duties, as appropriate. This affords him/her leadership opportunity and his subordinate crewmembers followership opportunity. The entire watch section must act together to accomplish the orders of the Skipper/Coach and prepare the next watch section for success.

Followership is important. The Watch Captain may not be the most experienced Midshipman, and so the subordinate crew members must learn to support their Watch Captain so the entire team may succeed.

Helmsman:

Advises Navigation Plotter of intended changes in course (examples: tacks and gybes, maneuvers for contact avoidance, avoidance of shoal water, any other reason).

Advises Navigation Plotter of change in overall speed > 0.5 knots due wind velocity, change of sail(s), or point of sail.

Navigation Plotter:

Concurs with Helm on intended changes in course or recommends an alternative consistent with navigation position and tactical situation.

Advises Helm and Lookout of nav aids expected to be seen together with characteristics (color and interval) (examples: buoys, fixed marks, lighthouses).

Advises Helm and Lookout of expected hazards to navigation (examples: bridges of all types, unlighted buoys, fish havens, charted fish traps).

Advises Helm and Lookout of AIS and radar contacts (bearing and range) in order to assist Helm and Lookout in establishing visual contact.

Advises Helm, Watch Captain and skipper/XO of radio calls to own boat or radio information of interest (e.g., securite calls, weather advisories).

Lookout:

Reports to Helm all visual contacts when initially sighted (examples: shipping, nav aids, weather).

Tracks and updates Helm and Navigation Plotter on the position of visual contacts (shipping and nav aids).

Reports to Helm and Navigation Plotter observed hazards to navigation (examples: bridges, discolored water or breaking waves, fish traps, crab and lobster floats, etc).

Reports to Helm indicators of changing weather (examples: changes in cloud cover and types of clouds, dark areas on the horizon, visible rain, approaching reduced visibility, fog, etc).

All Watchstanders: Report all sightings and observations that are not understood or may be confusing.

Notes:

While there is always a designated Lookout, all hands topside should be alert that all contacts that pose a risk of collision, hazards, and conditions are noted and reported to Helm.

Follow-up reports on shipping contacts should include the following information as it is determined: bearing change (drawing left/right /constant), range (closing/opening) classification (ex: merchant, tug/barge, fisherman, pleasure craft), and target angle.

Similar follow-up information should be determined and reported for nav aids (specifically bearing change and range (opening/closing).

Nav aids should be consistently described in terms of their characteristics (ex: red 2.5 sec) in order to avoid confusion between multiple nav aids.

When under sail, particular attention must be given by topside watchstanders to detect and track contacts that may be behind the jib.

These examples are not all inclusive. The desired outcome: Active communications between watchstanders in order to function as an effective watch team for safe operations.

Watch relief. Turnover of the watch requires that there be a complete transfer of watch information and status from the individual being relieved to the individual assuming the watch. Relief of Helm, Watch Captain, Navigation Watch and Lookout should follow a similar format, as outlined in the SOP.

“A watch is never given. Rather, it is taken by the oncoming watchstander. It is important that there be absolutely no question who is in charge of a watch station because at any moment something could happen that requires an immediate response from the watchstander.

As a watchstander relieves the watch, he or she announces to the offgoing watchstander (in a loud and authoritative way - so that those around him can hear), “I relieve you”. At that exact moment, he or she is in charge of the watchstation. The offgoing watch acknowledges by saying “I stand relieved.” So an oncoming Helmsman would never say, “I relieve you” unless his or her hand is on the wheel and he or she is in a position to properly steer the boat.”

- OSTS Skipper

3.7 SITUATIONAL AWARENESS

Situational awareness is an essential attribute of leadership in successful OSTS participants. In essence, it is the process of keeping track of what is going on around you in a complex and changing environment. Good situational awareness creates high probabilities for successful outcomes. Poor situational awareness is often a significant factor in operational incidents/accidents.

The successive steps of situational awareness are:

Recognize what is going on (on board own vessel, in the vicinity of own vessel, and both relative to the current task or mission).

Identify and judge those things that could impact you.

Act to achieve the desired result(s).

Good situational awareness requires focus, active thought and decisions, plus an element of time to develop. Operational situations on the water are dynamic. Existing circumstances may change quickly and negate prior judgments and decisions.ment of time to develop.rrent ta

Maintaining good situational awareness is similar to using the OODA loop concept (Observe, Orient, Decide, Act) to guide all evolutions on the STC. The OODA loop was first developed by Colonel John Boyd USAF to help combat pilots defeat their adversaries in aerial dogfights. This concept was later

applied to non-combat operations like litigation, business, military strategy, and the basic learning process. The key attributes of situational awareness very much mirror the OODA loop principles, and should be considered while underway during the cruise block.

Experience contributes significantly to building situational awareness because similar situations and patterns can be recognized, thereby facilitating assessment and decision-making. But experience is in short supply in MIDN crew members. Therefore situational awareness must be developed and consistently reinforced by Skippers and XOs. The OODA loop process can be used effectively to reinforce situational awareness.

There are numerous human factors that will degrade situational awareness, especially judgment and decision-making. The following can degrade quality and effectiveness of situational awareness:

Fatigue. Adequate rest is always a challenge at sea, particularly for Skipper/XOs serving in the OSTs training environment. As for MIDN, they have little experience in managing the port and starboard watch routine and resultant sleep cycle, especially in the first few days, until the body adjusts to the new sleep cycle. Extended periods without sufficient rest and the interval between 0100 to sunrise are especially difficult because of the body's starboard (circadian) rhythms. Resultant sleep cycle, especially in the first few days, until the body adjusts to the new sleep cycle. should be considered while underway during the cruise block.

Complacency. There is a strong tendency to take more credit for completed training than is warranted. Crews learn quickly and progress appears to be rapid; however, crew members have little experience and initially lack the discipline necessary to stand a good watch. If things seem to be going well, it is time to look harder to identify and correct watch performance shortfalls that invariably exist and have not yet been recognized and corrected.

“Complacency is always our greatest enemy. If my crew is actively working to solve a problem and I can see them engage, that usually means they are properly attending to their duties. But when things are quiet, start to become uneasy because that means my crew is becoming complacent. At times like that, I start to point out all of the things that are wrong or that could be improved, or I give some sort of activity to keep them engaged.”

It is difficult to explain complacency to MIDN, so when I can I try to show them. If I notice them being complacent and then I notice an undesirable thing is going to happen, I sometimes allow that bad thing to happen (as long as safety is maintained). That is usually a good wakeup call. We talk about the situation afterwards and they start to understand. I would rather they learn from a benign “oops” that makes them more vigilant, than to trust that I will always be able to foresee a catastrophe.”

“I rarely see a less-than-competent, alert watchstander be the cause of danger, but I frequently see my most competent watchstanders put us into danger when they let their guard down.”

Distractions. As noted, good watchstanding requires personal discipline. In OSTs, that rigor is not yet part of the makeup of most MIDN. Casual/non-business conversation can be a significant distraction from the on-going operational responsibilities. Distractions of all flavors must be minimized.

Stress. Mental and physical stresses detract from an individual's alertness and mental performance. While some element of stress is inevitable while performing to high and unfamiliar standards, be alert for unusual situations that may be mitigated.

Transition. On the water, transitions occur regularly. Each transition warrants a reset (or at least a review) of the prior picture with emphasis on things that have changed. Some transitions may be common or apparently minor such as a change of course. But even there, wind angle and direction of seas are different and may affect sailing / boat handling. Nightfall and sunrise are daily events and the nighttime period is certainly more challenging. Watch relief and recognizing heavy weather on the horizon are major transitions that warrant either (1) new/additional thinking or (2) a careful review of factors and considerations.

Night Operations. Operating at night poses a whole new set of challenges for the watchstander underway on the sea. Loss of visibility, recognition, and depth perception are just a few challenges sailing at night. Night sailing also adds to the overall stress level of even an experienced crew.

Over reliance on single sources of information. While operating a N44 there are a number of indicators that can be compared directly to verify important information. There are additional sources of information that can confirm or conversely, bring into question apparent normal indications. If the single source of important information degrades or fails, a critical factor in situational awareness is lost, such as optical – and routinely check alternate sources.

Examples of over reliance on a single source of information.

- GPS position is readily available and easily determined. But GPS is a single source. The navigation routine requires that the sounding indicated by fathometer be logged at the time of each fix. After plotting the fix, the sounding “by chart” is also logged and compared. Any deviation is to be evaluated and resolved. (ref (d)).
- A weather forecast is copied from VHF or HF radio. Take a look at the sky and horizon to determine if conditions in your area are consistent with the forecast - or worse weather is apparent (literally compared, is lost).
- The engine is started to charge the battery bank. With the engine running for a period of time the battery will be restored to the desired level of charge – correct? Check the battery ammeters to determine whether the batteries are actually being charged.f

The examples here are obvious and easy. Watchstanders and supervisors (CO/XO/Watch Captain) should develop a routine of cross checks of indicators to determine that separate/independent sources agree - and that current understanding of status is confirmed.

“In the Navy, it is frequent for equipment to break because it is exposed constantly to a harsh ocean environment. Also, with arduous sleep and watch schedules, and high stress, people are more prone to make even the most basic mistakes.

One of the first things I learned (by experience) is to never, ever rely on a single source of information. I am always (healthily) skeptical of any read-out from a piece of equipment or person, and I never truly accept it without concurrence from other sources. Even after that, I am always looking for a reason why my sources might be wrong. It has saved my skin ngle source of information. I am always

OSTS SKIPPER

Shared mental model. A vital factor in the watch section’s situational awareness is agreement as to the current status and sharing a common understanding of the desired result. This synchronization of available information and intended outcome is considered to be a shared mental model. It is particularly important if uncertainty is involved or when a situation is not covered by existing rules or procedures.

Example: Rules of Road (COLREGS) describe situations and actions for two vessels in one of three scenarios: crossing, meeting, or one overtaking the other. Situations involving three

vessels are not addressed by the ROR. In such cases, the members of the watch team must “be on the same page” in understanding the picture, actions intended to avoid close quarters/collision, and expected positions relative to each other while maneuvering. Members of the team can thereby monitor and understand the situation as it progresses and be quickly aware if the avoidance plan is not playing out as intended.

Supervisors (again Skipper/XO/Watch Captain) must ensure, by all means necessary, that the watch team has a shared mental model of developing situations, particularly those where ambiguity is possible/probable. Intended outcome is not limited, to instances where normal visual assessments are limited (examples: darkness, reduced visibility due to fog or precipitation, numerous bright lights ashore). Special attention is warranted whenever watch stander alertness and performance may be degraded (examples: small hours of the morning, cold and rainy/wet conditions).

Error chains. Mariners understand that a single personnel error or single materiel failure seldom causes a significant mishap or accident. Rather, analyses consistently identify a series of omissions, errors, failures, or poor judgments that set the stage for significant casualties or incidents.

Afterwards, we recognize that if one in the series of errors/failures/shortcomings had not occurred the accident would not have happened. The sequence may be called a series of error, a chain of errors or simply an error chain.

Rather than attempting to identify and correct errors in real time, mariners (and the Navy in particular) have built a discipline of procedures, check lists, preventive maintenance actions, plus watchstanding disciplines and practices to minimize omissions and errors. These preemptively break potential error chains.

Big picture challenges for Skippers/XOs in conducting an OSTS block are largely two fold.

Preparing for deployment is the first challenge: training the crew as competent watchstanders and performing underway evolutions, plus chart preparation and boat material readiness.

The second challenge is actually harder and more demanding: active and continuing oversight of operations and personnel performance throughout underway periods. Experience has repeatedly shown that enforcement of requirements and standards by supervisors (Skipper/XO/Watch Captain) is required. Absent active oversight, watch standing/operational omissions and weaknesses will become links in error chains. preparation to recognize and correct poor performance, which can lead to an error chain, constitutes unsatisfactory situational awareness, particularly on the part of supervisors.

This is particularly true when known requirements are not followed, are overlooked, and are allowed to continue (not corrected and enforced). This creates a culture in which poor performance is condoned or even accepted as the “real world.” This is an environment in which bad things will happen; it is only a matter of time before error chains are formed and a significant incident occurs.

Conducting drills throughout the cruise block can be used to build the crew situational awareness skills. Drills like steering without instruments, or a sensory barrage followed by quizzing for hazards to navigation are very useful to the watch team.

A good reference for further information on situational awareness at sea is the book *Bridge Resource Management for Small Ships* by Captain Daniel S. Parrott (ISBN 978-0-07-1550079).

TABLE 1: NA-____ – SAMPLE CRUISE PREP SCHEDULE

Departure (-3) OR EARLIER	D(-2) OR EARLIER	D(-1) OR EARLIER
<p><i>ADMIN PARTY</i> Collect medical forms Collect room/cell # Collect & compile cert matrix Create, post u/w training plan</p> <p><i>SUPPLY PARTY</i> Inventory onboard Cleaning supplies Food stores Galley equip Medical kit LPG Tank(s) Dry, air all living spaces, head Turn on reefer Check/ fill water tanks Optest head; lube w/ veg oil Optest LPG, stove/oven Optest/ TURN ON REEFER Create & post stowage plan Label wet lockers & food</p> <p><i>ILT PARTY</i> Connect shore power & cool reefer Inventory load-out Sails (restow PESO!) Lines/ gear Anchors Tools Spare parts/ fluids Check fuel tank level Optest engine Optest all nav & admin lights Inventory, inspect Fire extinguishers Flares Kapoks Emergency tiller Bilge pumps BIB / SOP Tech manual</p> <p><i>NAVIGATION PARTY</i> Inventory charts Verify all chart changes posted Inventory onboard Publications Offshore log Bearing log Navigation texts</p>	<p>ALL 0745: Muster at boat 0900: Depart Basin 1730 Return to Basin 1900: Muster at Luce Continue chart prep Continue boat inventory Read Standing Orders Acknowledge reading SOP/BIB</p> <p><i>ADMIN PARTY</i> Wednesday WX brief Schedule pumpout, fuel, water times (if required) Optest sat phone, if issued</p> <p><i>SUPPLY PARTY</i> Cleaning supplies Galley equip Medical kit LPG Accept, stow food loadout Draft menu, stores shopping list Initial commissary run</p> <p><i>ILT PARTY</i> Inspect & stow Sails (PESO!) Lines/ gear (shackles up!) Anchors Inspect all running rigging Inspect all standing rigging Ensure spare oil, xmsn & coolant containers are full</p> <p><i>NAVIGATION PARTY</i> Organize nav station Stow charts in voyage sequence Load waypoints in GPS Check VHF/ HF for correct channels, operation Optest RADAR Optest Fathometer, knotmeter Determine cruise track based on WX, currents Create PIM Optest VHF, HF, WXFAX</p>	<p>ALL 0745: Muster at boat 0900: Depart Basin for underway training 1730 Return to Basin</p> <p><i>ADMIN PARTY</i> Finalize 48-hour cruise plan</p> <p><i>SUPPLY PARTY</i> Brief stowage plan Final commissary run, if needed Supervise stowage of stores & personal gear</p> <p><i>ILT PARTY</i> Inventory, inspect Flares Tech vests Preventers Reefing lines</p> <p><i>NAVIGATION PARTY</i> Training on maintaining Offshore Log Bearing Log Waypoints in GPS RTP training Instruments/ comms gear training Bearing compass training</p> <p>DAY OF DEPARTURE: <i>ADMIN PARTY</i> Brief: Standing Orders Night Orders Cruise Schedule Brief stowage plan</p> <p><i>SUPPLY PARTY</i> Supervise stowage of stores & personal gear</p> <p><i>NAVIGATION PARTY</i> Navigation & WX brief Initiate Log once underway</p> <p><i>ILT PARTY</i> Rig jack lines Underway prep per SOP Supervise fitting & testing of tech vests and tethers</p>

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4.0 REINFORCEMENT OF LEADERSHIP EXPERIENCE

4.1 INTENT. This chapter will provide recommendations for Skippers and XOs on how to reinforce and build on the experiential leadership experience of OSTs.

The first recommendation is to regularly employ the concept of guided reflection. Appendix B goes into more detail on this concept and how it is taught at USNA. It is one of the most powerful leadership tools because it is personal to each MIDN. It also introduces a practice of self-assessment (leading to improvement) for use during future service. Employing guided reflection should be a priority for OSTs Skippers/XOs.

The second recommendation is to use goal setting by each MIDN (one goal should involve leadership), followed by self-analysis at the end of the block to encourage reflection on personal achievements.

Finally, the deployment phase of the cruise block allows the MIDN to exercise the leadership principles outlined in Appendix B in an at-sea environment.

4.2 REFLECTION DURING OSTs

Reflection-in-Action. This mode of reflection occurs during a developmental experience. The learner experiences new, unfamiliar, or unexpected situations leading to real-time thinking to make meaning of the new experience. The hands-on leadership responsibility intended in OSTs creates these kinds of developmental experiences, providing a rich environment for the application of knowledge from the academic curriculum. This meaning-making process is called reflection-in-action, and is an important phase of experiential leadership development. This kind of reflection occurs within the learner during the course of an experience, but is more likely when environmental conditions are favorable for reflection. These conditions are contained in Appendix A and are repeated here:

Conditions for Reflection	Definition Within the Work Environment	Parallels in OSTs
1. Autonomy	Freedom and discretion to structure one's work	Delegation of authority, exercising responsibility
2. Feedback	Information on results of one's actions Information is raw material for reflection	Critiques/assessments by Skipper/XO, and one-on-one feedback
3. Interaction with people		
a. Access	Encounters with knowledgeable people	Skipper/XO
b. Connection	A supportive interpersonal relationship	Potential exists in small crews
c. Stimulation	People who provide new ideas and perspectives	Peers
4. Pressure		
a. Promotive	Large amounts of new information/ time limitations	Training requirements/schedule/risk/ambiguity

b. Directive	Performance demands, visibility and importance	Crew interdependency and teamwork
5. Momentary Solitude	Periodic, brief occasions at or away from work to process new information alone	A quiet watch or off watch.

Items 1 (Autonomy) and 4 (Pressure) occur when Skippers/XOs purposefully delegate responsibilities to MIDN crew members within the bounds of safety. It is assumed that every Skipper/XO team views crew autonomy as a specified or implied goal of the cruise block.

Items 2 (Feedback) and 3 (Interaction) occur naturally when the Skipper/XO team debriefs individuals and crews, both formally and informally, on their performance during and/or following evolutions. Skipper/XO teams model supportive relationships through their dealings with each other and the crew, and encourage supportive interactions among crew members.

Item 5 (Momentary solitude). Skipper/XO teams should encourage the productive use of moments of solitude during the block. Journaling should be encouraged to facilitate private, individual reflection.

Proactive Reflection. This mode of reflection entails a brief removal from the developmental experience for the purpose of pondering the experience itself. Typically the OSTS Skipper or XO serves as the facilitator for proactive reflection. Schedule two opportunities during the OSTS block for each crew member: one with the Skipper; and the other with the XO.

The first proactive reflection session would be appropriate during the outbound transit to the remote port. The second, during the return and prior to arrival in Annapolis. It is intended that these sessions be separate from a final end-of-block review that addresses performance evaluation for purposes of the MIDN's training record at USNA.

The goal is to have each Midshipman self-examine the OSTS leadership experience with an eye to how the experience will be used for greater professional insight in the future. The Skipper and XO are primarily facilitators. The goal is for the Midshipman to make meaning out of the experience.

Midshipman Goals. A key attribute of reflection and a principal objective of OSTS is gaining hands-on experience consistent with the overall training mission of the Naval Academy. A set of goals, established by each Midshipman, should be used to help realize this objective.

Goals should be SMART.

Specific – precise, not general statements.

Measurable – should have a metric by which to judge achievement.

Attainable – realistic and achievable, while also challenging.

Results oriented – desired outcome; words like complete, acquire, produce, increase, decrease.

Time bound – a deadline for completion.

Each Midshipman should develop at least two goals for the cruise block. One of the goals should address leadership or be professional in nature. The second goal should be a personal goal.

At the beginning of a training block, most MIDN have little understanding of OSTS. It is suggested that MIDN write out their goals after the 48 hour shakedown cruise and prior to departure for the remote port. This timing provides some initial experience to allow a context for setting meaningful goals. A sample

goal sheet is provided below. The below goal form can be used to help each Midshipman frame up their goals for the cruise block.

The Skipper and XO need to be actively engaged in assisting each Midshipman to develop SMART goals. These established goals can then be reviewed at the mid-cruise point, and at the end of the cruise block when performance assessments are reviewed with each individual. These goals and end of cruise performance assessments are closely tied with the principles of guided reflection.

Targets of opportunity. There are times, particularly during the offshore passage, that may present the opportunity for discussion between a Skipper/XO and one or two MIDN, i.e. on a quiet night watch. Rather than simply social conversation, consider using the opportunity for reflection, particularly if there was a recent notable evolution or problem. In addition to the leadership considerations, the conversation can be a valuable opportunity to examine factors within the situation in the situation, both why things went well or reasons for poor performance. These occasions provide an opportunity to guide MIDN thinking toward deeper and broader considerations and their implications. This is the essence of substantive reflection.

“A quiet watch afforded great opportunities to discuss leadership topics with the Mids. I would pose questions ranging from the last watch to life in general at the Academy. I was genuinely curious to hear what they discussed because it helped me understand them. If it was something from the boat, I could offer my point of view and help them understand the bigger picture.

I made sure to give everyone in the discussion a voice. They seemed to always learn something, and so did I. It made us all better prepared and a better team for the next challenge we would face.”

- OSTS Skipper

Suggested open-ended leadership questions for both proactive reflection and reflection-in-action. The following prompts can be used to start and steer discussion. The objective should be pushing beyond a first or easy answer. Follow-up questions in real time lead to deeper “meaning-making” and constitute effective reflection.

Describe an experience of something new, unexpected, or confusing during the block – your own or one you observed.

What was the outcome? Why was the outcome satisfactory? Why not?

What were the actions involved?

What alternative actions could have been taken?

How would alternatives have affected the outcome? Why?

What did you learn from the particular situation?

How will this experience affect how you will handle similar situations in the future?

Give an example of classroom leadership training being reinforced by your experience.

Give an example OSTS experience has raised concerns or questions? How will you use that experience?

What OSTS experience has had the most leadership impact on you? Why?

What goals have you accomplished to date?

TABLE 2: OSTS BLOCK CRUISE MIDSHIPMAN GOALS

Name:	Circle one: 3/C 2/C 1/C	Block:	Boat:
		Calendar Year:	
1. Personal goal:			
1A. End of block self-assessment:			
2. Leadership goal:			
2A. End of block self-assessment:			

5.0 LESSONS LEARNED

5.1 INTENT. The purpose of this chapter is to provide reviews of actual situations to help Skippers, XOs and MIDN learn from real world experience. These Lessons Learned contain USNA (and in one instance, U.S. Coast Guard) on-water incidents from recent years and their related lessons. OSTS participants should read them both as examples of how difficult situations can contribute to developing small group leadership, and as cautionary tales of how situational awareness and guided reflection are central to successful operations.

5.2 DISCUSSION. While it is doubtful that you as Skipper or XO will face an identical situation, the write ups that follow demonstrate actions and principles that may be useful in addressing challenges and problems that most certainly will arise.

Skippers and XOs, past and current, are encouraged to share challenging experiences by submitting additional reviews similar to those below. Use whatever format best captures the situation, however, you may also need to fill out an incident report (ref (a)) if warranted. One event is appropriate for each submission, and should be short while still conveying a full description of the situation. Please submit any new reviews to the Director OSTS for consideration in a future edition of this Leadership Guide. The goal is to keep these discussions fresh and relevant to OSTS.

The objective is to provide Skippers and XOs relevant “sea stories”, with lessons learned that can be discussed among the Midshipmen crew during the summer cruise. These can also be used to start a conversation among the crew during the mid-watch - or any watch.

5.3 LESSONS LEARNED

- 5.3.1 Reflections of a USNA Midshipman Skipper (Meaning and Value of OSTS Experiential Leadership)
- 5.3.2 Reflections of a USMA Cadet Skipper (Meaning and Value of OSTS Experiential Leadership)
- 5.3.3 Collision of CG Cutter Cuyahoga with Merchant Vessel Santa Cruz II (Situational Awareness, Importance of a Shared Mental Model)
- 5.3.4 Bridge Strike (Complacency, Error Chain, Situational Awareness)
- 5.3.5 Allision with a Buoy in Delaware Bay (Watchstanding, Fatigue, Error Chain, Situational Awareness)
- 5.3.6 Hitting a Buoy in Elk River (Complacency, Watchstanding, Situational Awareness)
- 5.3.7 Rudder Casualty (Standard Commands, Error Chain)
- 5.3.8 Running Aground in Eastern Bay (N44) (Situational Awareness, Watchstanding, Phase II Training, Navigation Performance)
- 5.3.9 Running Aground in Long Island Sound (YP) (Standards of Navigation, Fatigue, Situational Awareness)
- 5.3.10 Rules of the Road and Ethics (Complying with the Specific Rules and Understanding the Intent of the Rules of the Road)
- 5.3.11 Ownership of Problems (Reflections on Managing Difficult Situations)
- 5.3.12 Head and Holding Tank Blockage (Troubleshooting and Solving Material Problems)

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5.3.1 REFLECTIONS OF A MIDSHIPMAN SKIPPER (USNA)³

It's been roughly five months since I moored NA-32 *COMMITMENT* in Santee Basin for the final time on my final cruise as a Midshipman in the Offshore Sail Training Squadron (OSTS) program. I can no longer remember each distinct day of my voyage, what items needed to be fixed below decks, or even the first and last names of each member of my crew. Come to think of it, I can't even remember the exact names of all the equipment topside. The good news is, however, that the real value of the OSTS program can't be found in an academic understanding of sailing, the number of miles sailed, or the speed of the boat. Instead, my three summers spent sailing with the OSTS program as a crew member, XO, and Skipper of an all Midshipman crew taught me invaluable lessons about a far more important topic, leadership, and in a way that no other training program can replicate.

This is all because OSTS is a culmination of three fundamental leadership challenges: the charge to teach a complex art to inexperienced subordinates in a short amount of time, a demanding mission with the potential for real consequences, and the need to accomplish a mission without overbearing directives or formal job descriptions. Simply put, no other program at the Naval Academy is more genuine, and it deserves a more thorough appreciation for the three fundamental challenges it creates.

When I entered the Naval Academy in 2007, I had no sailing experience whatsoever. Then, like every Midshipman during plebe summer, I was put on a 26 foot sailboat for an hour of basic sailing three or four times over the course of two months. Needless to say, this created more questions about sailing than it did answers. However, I would not answer these questions until a full year later when, out of an interest to try something different for summer training, I asked for OSTS as my Third Class Professional Development Summer Cruise. It was then that my sailing career truly started.

Over the course of four weeks, I did my very best to learn what to do, the vocabulary to describe what I was doing, and finally why I was doing what I was doing. I remember only reaching this third tier of understanding about the most basic of tasks during my summer as a crew member. However, what still amazes me today is exactly how much I have come to know about sailing and how much more I have yet to fully grasp, despite XO and Skipper tours the subsequent summers. Simply put, it seems every time I reach a desired level of understanding I find more and more to learn, and I am sure this will always define my relationship with sailing. But herein lies the challenge: if it has taken me 12 weeks of dedicated summer training along with months during the academic year to reach some level of proficiency in sailing, how am I, a Midshipman Skipper, to teach a totally inexperienced crew the art of sailing to the level where we can safely transit to Newport, RI in less than a few weeks?

The answer is that it takes organization, dedication, and a grounded understanding of what I am teaching, all of which are coincidentally the backbone of good leadership. Specifically, I needed to create a training plan, diligently execute this plan, and then demonstrate my technical proficiency in order to develop a positive and professional mentor-student relationship onboard. Moreover, these same leadership lessons could not be learned nearly as well in an environment that wasn't as complex or nuanced as sailing. Thus, the OSTS program, by virtue of being framed in the sailing environment, demands intensive and active leadership training, a claim that few other programs can make. However, all of this training, whether it was leadership development for myself, or the technical training for my crew, was also intensified because our training culminated in an actual four day voyage in the open Atlantic on a forty four foot boat, a daring venture at best.

At the Naval Academy, most training environments culminate in a graded evolution that incorporates all of the lessons learned throughout the course of instruction. However, most final graded evolutions have no direct negative consequences. OSTS, on the other hand, culminates in a four day voyage out in the Atlantic Ocean that comes with no guarantees, especially when it comes to rudder cables.

³ 2LT Michael S. Smithson USMC, USNA Class of 2011, published in USNI Proceedings 2012

(Editor's note: The Midshipman Skipper and crew sailing in COMMITMENT had the rudder casualty described later in Section 5.3.7. He led immediate casualty actions aboard, and then ashore in Freeport, NY, he supported repairs that restored COMMITMENT to full operation. Readers should review the Skipper's casualty to understand his experience and place his reflections here in context.)

There was nothing contrived about snapping a rudder cable. No one could call a "training timeout", nor were we guaranteed to sail away from the incident without damage to the vessel or serious injury. Simply put, failure to perform well and correctly under pressure was all that stood between this incident being an inconvenience and being a serious emergency.

Thankfully, everyone was able to look back on the ordeal and laugh at its excitement and drama. However, this is only due to the exemplary performance of all aboard, and by no means was this result reached by accident. There was real danger with real consequences, and consequently, I will likely never forget the lessons I learned about leadership that night, or in the ensuing months of review and reflection; and no, such a meaningful training scenario cannot be mimicked without the genuine challenge and risks associated with the realities of skippering a sailboat on the open ocean.

Lastly, and most importantly, I can proudly say that I have never once been told how to do my job as XO or Skipper. Now this does not mean I was not given pointers and suggestions, as well as excellent role models to base my leadership style on. However, I could skipper my crew as I saw fit, so long as the mission was accomplished safely and completely. Compare this to academic year leadership training, and the importance of this becomes obvious.

During the academic year, I have held multiple billets, each with their own unique leadership challenges. However, I have always been given very precise directions on how to do my job, and because of this, have gained only minimal leadership experience from these training evolutions. Simply put, if I am not granted the leeway to fail, I cannot possibly learn the lessons that are best learned by falling short. Thus, the fundamental difference between OSTS and other leadership training environments is uncovered: failure IS possible and expected in the OSTS program, and it is always accompanied by genuine consequences that are inherent in sailing on the open ocean. However, these failures are always used as a teaching tool and thus the full spectrum of leadership can be learned.

In retrospect, I must admit that all training is what one makes of it. However, the OSTS program's willingness to expose Midshipmen to the naturally complicated art of sailing, genuine consequences, all with the freedom to fail and learn from one's mistakes are what make the OST program as rewarding as it is. Thus, I will always maintain that no other leadership development environment on the Yard is inherently more enriching than the OSTS program; it is leadership training at its finest.

5.3.2 REFLECTIONS OF A CADET SKIPPER (USMA)⁴

“At sea a fellow comes out. Salt water is like wine, in that respect” - Herman Melville

I walked onto the Army Sailing Team in 2008 without ever setting foot on a sailboat. I joined on a whim and never would have guessed that my team and the connections I made would become the definition of my 47 month experience at West Point. My very first race was the invitational Shield’s Cup Regatta held at the United States Naval Academy. Army Sailing took last place that year, a dismal finish that many on my team would rather forget. However, with that brief taste of sailing Navy 44s, I got hooked. I started to dedicate my free time to learning, practicing and perfecting the craft. With the help of my coach, I also made significant connections with the sailing program at the Naval Academy that helped me develop as a sailor and Cadet-coach. When I arrived at USNA in January of 2010 on an Academy Exchange, I somehow convinced members of the Naval Academy to let a West Pointer teach a group of MIDN how to sail. Shortly thereafter, I was assigned to the OSTS program: a three week sail to Newport, RI along with eight MIDN. A month before I returned to West Point, I confidently gave the last command to make down the lines aboard NA-25 Tenacious. Retrospectively, I am able to identify four major facets of leadership that were developed and/or strengthened through the OSTS program: mentorship, experience, new knowledge, and the ability to reflect. These aspects combined with the challenging environment of life at sea provide MIDN a real-time command laboratory that strengthens the foundation for life-long leaders.

The first and most influential aspect of the OSTS experience is mentorship. From the beginning of the program until the last stern line is set, there are multiple chances to adopt a mentor. Throughout my time in the OSTS program, my mentor was COL (Ret.) Dick Lunsford, a graduate of Virginia Tech and former West Point Instructor. Although he is a sailing favorite at USNA, he has always been supportive of the Army Sailing Team and often dedicated his weekends to help coach and train our crew. Mentors like COL Lunsford help support the Naval Academy’s mission to develop MIDN morally, mentally, and physically by enhancing their learning opportunities. My mentor helped me become introspective with my experiences at both Navy and West Point. He also helped me synthesize my own conclusions about leadership challenges I encountered and made sure I came away from each experience with a lesson learned. One of the most significant lessons COL Lunsford taught me is the idea of “the loneliness of command”. This refers to the second and third-order effects of decisions. At sea or on land, leaders are charged with the duty of making responsible and educated decisions that are not always comfortable for the crew or the leader. It is here, in the area between doing what is needed and what is wanted, that the leader will feel the loneliness of command. Lessons like this can only be understood through shared personal experience. Mentors like COL Lunsford are an invaluable element of the OSTS program because they reflect what it means to be a leader in our current operating environment and promote mentorship to those they guide. With a cycle of great mentors developing future mentors, generations of leaders will continue to be inspired.

Following mentorship, experience is the second most important aspect of leader development. Over the course of our 15 day sail, my crew and I were tested a number of times by the sea and the weather. One such incident occurred about seven miles off the eastern coast of Block Island, RI. Just as I was relieved from my nightly watch, a weather system started to move in. I retired to my bunk and barely shut my eyes before I was awoken by a member of the crew yelling, “Rhys, Nick is on the bow and he needs your help!” Instinctively, I grabbed my foulies, forgetting my boots, and ran onto the deck. When I breached the passageway, the wind was howling and the skies had opened up. I quickly surveyed the scene and spotted Nicky the sea and the weather. One such incident occurred about seven miles off jib sail, struggling to stay in control of the situation (and on the boat, for that matter). The force of the wind, peaking at about 45 knots, caused the bow of the boat to round up into the breaking swells. I had to react immediately to secure the safety of my crew. Because I had little time to think, I relied heavily on my training and let my muscle memory take over. I quickly moved to release the jib halyard and fetch the sail ties to secure the flailing sail to the deck. After the sail was down and the crew was accounted for, the reality of the situation sank in.

⁴ 2LT Rhys A. Hearn US Army, USMA Class of 2011, published in USNI Proceedings 2013

Months later, I learned that I had executed Recognition Primed Decision making. I recognized the situation from the hours of training and classroom exercises and was able to make a quick decision based on the circumstances. This set of circumstances validated the OSTS training program for me. From that point forward, I was confident that my training would get me through any situation at sea. While the OSTS program could not possibly teach you how to react in every instance, it does teach you how to approach a situation calmly and objectively, how to troubleshoot, and how to develop an appropriate course of action. Though not officially, the teaching method of OSTS inculcates a deliberate problem solving process that is valuable in many circumstances for any military leader.

New knowledge is the next important aspect of the OSTS program. The OSTS program's training philosophy is derived from military decision-making and training programs that are in current operational use. It provides a basis of knowledge for MIDN that will follow them into their military careers. This knowledge extends beyond traditional skills like plotting, engineering, and watch standing. It delves into the core values of leadership by placing the individual MIDN, especially the Midshipman Skipper and XO, at the center of all training. It is based on standards and oriented around performance. The offshore program makes the Skipper and XO responsible for training their crew by allowing them to determine the training schedule during the first week of local area sailing. The Skipper then takes the crew and trains them to a proficient level, which includes everything from running the galley to reefing and man-overboard drills. This training schedule helps develop and enhance the technical proficiency of Skippers and XOs. During their first overnight at the end of week 1, the Skipper/ XO team train their crew to adapt to a variety of situations that may arise while at sea. These rehearsals, or sea trials, are the best way for the Skipper/XO team to recognize the individual and collective tasks that still need improvement while identifying the members of the crew to fill the watch captain positions. Finally, the program allows current Skippers and XOs to identify and recommend members of their crew to return the following year as XOs themselves. This method helps sustain the training program while fostering an environment of continued proficiency and dedicated leadership.

The final aspect of leader development that the OSTS program offers is reflection. When I returned to West Point in August of 2010, I brought back knowledge and experience to the Army Offshore Sailing Section. I rejoined my coach, Dr. Lee Harrell (a fellow OSTS Skipper and volunteer), and other members of the sailing team to develop a training schedule similar to the OSTS program. Dr. Harrell and I were determined to develop the team into a more competitive sailing program that was on-par with the skill and resolve of its members. This determination emanated from the OSTS program where I not only became a better sailor but developed professionally and gained confidence in my own leadership abilities. Through reflection on my experiences at the Naval Academy and the incredible opportunity I was given, I became better suited for a prominent role on my own sailing team. Although the technical skills I learned through the OSTS program may not be applicable to an Army Officer, the chance I had to make substantial real-time and real-world decisions will remain with me indefinitely.

Mentorship, experience, new knowledge, and the ability to reflect are key elements in professional development. These elements are brought to the forefront through the OSTS program through real-life consequences of decisions made at sea. As Melville surmised, "at sea a fellow comes out". In this way, the OSTS program brings out the leadership potential in every Midshipman. It puts young men and women into challenging situations, forcing them to face whatever fears they have to make quality, educated decisions for their crew. The program inspires its participants to take ownership of their professional development, a notion that will serve a leader well throughout their career. To me, the OSTS program is one of the most defining moments of my development as a junior officer and leader. I am grateful to the United States Naval Academy for providing me with this incredible opportunity and I hope that I may, one day, return to the program.

5.3.3 COLLISION OF USCGC CUYAHOGA AND MERCHANT VESSEL (Situational Awareness, Importance of a Shared Mental Model)

Summary:

In October 1978, the USCG Cutter *Cuyahoga* collided with the Argentine coal collier *Santa Cruz II* (521 ft.) at night in the Chesapeake Bay. The resulting impact killed 11 *Cuyahoga* crew and sank the cutter. Root cause was failure on the cutter to properly identify the navigation light configuration and failure to communicate with the merchant. Personnel on *Cuyahoga's* bridge reached different conclusions regarding lights sighted on *Cuyahoga's* port bow (closing a small fishing vessel vs. meeting an on-coming contact). Ongoing evaluations of the visual contact were not communicated within the watch team. Situational awareness was faulty because the watch team did not have a shared mental model of the surface picture.

Narrative:

Cuyahoga was transiting from Yorktown, VA to Baltimore, MD. She was operating as a training ship for officer candidates. The evening of the accident, she was northbound on the Chesapeake Bay in darkness (2045) in the vicinity of Smith Point Light, approaching a planned turn to the west to enter the Potomac River to anchor for the night.

Cuyahoga's captain saw a red light and a white light ahead on *Cuyahoga's* port bow. The contact was first detected at a radar range in excess of 10,000 yards and presented a small radar image. The Captain judged it was a fishing vessel headed for the Potomac River. However, the lookout who had first reported the visual contact also saw a second white light (a range light that the captain had missed) that indicated that the contact was likely a southbound ship on an approximate reciprocal heading.

The Captain and the Officer of the Deck (OOD) (an Officer Candidate) both understood there was a vessel to the north on *Cuyahoga's* port bow, but the number of lights, light configuration, and the contact's probable heading were not discussed.

The bridge watch changed. The on-coming OOD (also an Officer Candidate) also saw the additional white (range) light indicating a southbound contact. The new lookout reported a "series of lights" without specifying the number or color or that they had the appearance of a ship. No one told the Captain of the alternate evaluation of the lights. As the two vessels closed the range, there were two differing views: the Captain believed *Cuyahoga* was overtaking a small fishing vessel, others judged it to be a port-to-port meeting.

The Captain, the Officer Candidate OOD, and the bridge watch did not have a shared mental model of the situation. The watch team lacked situational awareness.

Since he intended to turn west into the Potomac River to anchor, the Captain concluded it was best to overtake the contact on its port side, so he ordered a large course change to port.

However, the other vessel was not a slow fishing craft. The *Santa Cruz II* was proceeding south at 14 knots. The merchant had not initiated radio contact because the situation appeared to be a normal port-to-port meeting. *Cuyahoga's* captain did not call because he was locked into the evaluation he had framed for himself.

Cuyahoga turned across *Santa Cruz's* bow, was run down, and sank. Eleven crew members perished. Eighteen were rescued by *Santa Cruz*.

Assessment:

Visibility was good and *Cuyahoga* held the contact both visually and on radar. It appears the lookout did not make the periodic reports expected while tracking a contact (relative bearing, bearing change, range (estimate) and opening/closing, target angle, and classification).

The radar unit in *Cuyahoga* (first commissioned in 1926) was not readily available to bridge personnel because of its location (not in the wheelhouse). Radar ranges were determined infrequently and not recorded. It is noted that lighting in the area of the radar would have compromised night vision.

(Note: AIS did not exist in 1978, however, even though it is available on all OSTs Navy 44s, and a very useful tool, it does not replace keeping an active (and communicative) lookout at all times. Not all vessels carry AIS, so risk of collision with smaller boats (under 300 GT) is still very possible.

The Captain evaluated the contact differently from other personnel on watch. Conversely, members of the watch team did not report their observations and evaluation to the Captain. Differences were not recognized and therefore not addressed.

Given *Cuyahoga's* training mission one could speculate that the Captain had spent most of the day on the bridge. Fatigue and personal medical problems may have been factors in his judgment and actions.

The fact that the Captain was a Warrant Officer with 27 years of service may have intimidated Officer Candidate OOD's and junior watchstanders. However, watchstanders have a responsibility to make reports consistent with their responsibilities (even if such reports may appear counter to a senior's opinion). In this case, differing information could have caused the Captain to choose an alternate course.

Conclusion.

The investigation found the "cause of the casualty was that *CUYAHOGA* failed to properly identify the navigation lights of *SANTA CRUZ II*. As a result, the Commanding Officer did not comprehend that the vessels were in a meeting situation, and altered *CUYAHOGA's* course to port taking his vessel into the path of *SANTA CRUZ II*."

This is a catastrophic example of lack of situational awareness, on the part of the individual in charge and on the part of the watch team. The watch team did not understand the Captain's picture – and may not have been properly aware of the planned turn to the west and into the Potomac River.

Communications between all members of the watch team are essential to bring together all factors of the current operational situation. This creates a common understanding – a shared mental model – of the current picture and the desired outcome. Both a full and accurate picture and an understanding of the intended outcome are necessary in situational awareness.

A large part of our mission as leaders in a training environment is to foster a culture amongst the Midshipmen to develop their own situational awareness. To build an exceptional watch team, all members need to contribute, even the most junior. Crew should be told from the outset that their observations are valuable. They may see, hear or feel something that doesn't fit the agreed upon mental model, therefore they should speak up to their Skipper/XO/Watch Captain/Craftmaster. This will encourage active followership amongst your crew.

OSTS practices today require communications with contacts whenever there is any potential for a close quarters situation. It is especially important if the STC intends to maneuver and change the existing picture. If *Cuyahoga* had advised *Santa Cruz II* that she was turning west to the Potomac River, the danger would have been immediately recognized by *Santa Cruz*. In all likelihood, the collision would have been avoided.

5.3.4 BRIDGE STRIKE (Complacency, Error Chain, Situational Awareness)

Summary:

While proceeding at night in the C&D Canal, the Navy 44 *INVINCIBLE* struck the railroad lift bridge that crosses the Canal. The span was in the lowered position rather than up (normal status). *INVINCIBLE*'s mast broke at the lower spreader and landed on the stern. The Helmsman suffered a scalp laceration. A difference of an inch or two would have caused a far more serious injury to his head.

The immediate cause was inattention /complacency on the part of watchstanders: they failed to recognize and understand conflicting information regarding position of the bridge. Contributing factors included fatigue, inattention to watch responsibilities (lookout and VHF radio communications), and lack of squadron integrity.

Narrative:

INVINCIBLE was returning to Annapolis from Newport, RI at the end of their OSTs training block. During the daytime northbound transit of the Delaware Bay to the canal, weather was hot and humid (98°F/90% humidity). The off-duty watch section attempted to rest topside because of conditions in the cabin. Two sail changes additionally limited meaningful rest. The Skipper spent a majority of the day awake (on watch and off) to monitor the transit. The XO had gained a limited amount of sleep while off- watch.

Units of the squadron were proceeding independently under power. About 2100, the two lead STC of the squadron entered the canal 15 minutes apart. *INVINCIBLE* entered the canal as the last of the squadron and was 25 minutes behind the second vessel.

The C&D Canal is 14 miles long and has six bridges with five highway crossings and one railroad crossing. The railroad bridge is the only moveable bridge on the canal (labeled as "CONRAIL lift bridge" on the chart). It is the fourth to pass under during a westbound transit. Bridge clearances are stated on charts: the lift bridge clearance is 138 feet in the high lift position, 130 feet in the low lift position (normal), and 45 feet when down. A Navy 44 mast is 65 feet above the waterline.

The railroad bridge is lowered only for passage of a train, normal position is up. Traffic in the canal is advised of lowering by a sécurité call on VHF 13, 30 minutes prior to lowering, again at 15 minutes prior to lowering, and then immediately before lowering.



The bridge here is in the raised position, when down it aligns with the railroad tracks on each side (on the

bridge abutments). Bridges and structures are easily visible at night in the C&D Canal due to attached navigation lights and bright “street lights” along the canal on both sides.

Conditions: Dark with partly cloudy skies and no moon. The temperature had dropped into the high 80’s.

The port and starboard MIDN watch teams completed their turnover about 2200. The Skipper turned over the deck to the MIDN XO. The Skipper remained on deck until 2230 to ensure the oncoming watch was comfortable with the transit.

Skipper asked the Nav Plotter for the clearance of the first bridge of the westbound transit (Reedy Point Bridge at 135 ft. clearance) and monitored *INVINCIBLE*’s passage underneath. Both the Skipper and XO noted how the mast appeared to “just barely clear” the bridge even though clearance was 70 feet. This discussion did not lead to any further action. At 2230 the Skipper went below.

About 2315, *INVINCIBLE*’s mast struck the lowered span of the railroad lift bridge. The bridge had been lowered and the crew was not aware of the hazard. The mast buckled at the lower spreader and the upper 2/3’s of the rigging and mast above collapsed to the after deck. The XO, on the helm at the time, was struck in the head (9 stitches, no concussion). Luckily, he had the presence of mind to duck when the mast came down, averting what could have been a worse injury.

Immediate action. The engine was stopped to avoid fouling the prop. The crew assessed the situation from topside. The water around the boat was swept for rigging and lines prior to restarting the engine. *INVINCIBLE* diverted to Chesapeake City Marina where a full assessment of damage and a safety stand down were conducted.



INVINCIBLE after returning to Santee Basin

Assessment:

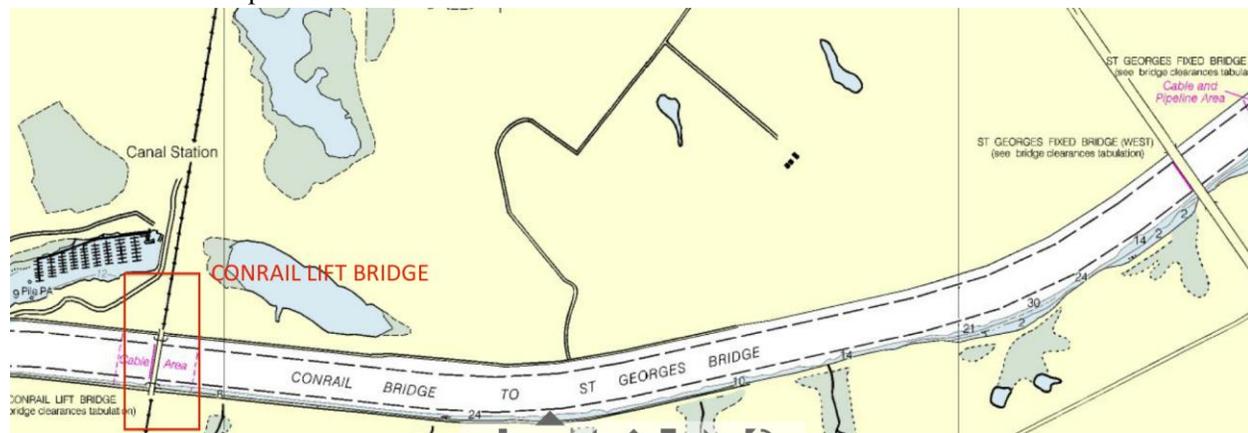
The following factors contributed to this incident:

By all outward indications, *INVINCIBLE*’s crew had conducted a successful deployment. They had

weathered two challenging thunderstorms, one during underway training (Phase II) near Annapolis and another off Cape Charles during the outbound transit. They had navigated well in fog while approaching Newport. Liberty ashore had been good and upon reaching the C&D Canal, the crew anticipated arrival in Annapolis in about 14 hours. The crew was confident.

The Skipper, after passing beneath the first bridge across the Canal and prior to going below, missed an opportunity to advise the watch concerning the lift bridge. He gave general instructions to check bridge clearances. The pre-sail brief for the return to Annapolis (conducted in Newport), had included the squadron rendezvous prior to NYC's East River, currents in Long Island Sound and the Delaware Bay, shoal water at Cape May, but had not addressed bridges of the East River and the C&D Canal.

The XO was acting as helmsman. This resulted in the senior and most experienced person on watch performing the duties of an individual watchstander. The Skipper and XO employed this practice to give selected MIDN an opportunity for a larger experience by overseeing the watch section. This created tunnel vision (the responsibilities of helmsman) for the person on deck (the XO) most likely to recognize and intervene in the problems described.



The watch section was not alert to the differences (and hazards) of the moveable railroad bridge compared to the five fixed highway bridges that cross the Canal. The three fixed bridges prior to the lift bridge had presented no concern. Watchstanders appeared predisposed that all clearances would be satisfactory.

Watchstanders additionally assumed bridge clearances would be satisfactory because two STCs were ahead and would be circling if they could not proceed further.

The Nav Plotter did not communicate accurately with the Helm. When asked, the Nav Plotter reported only the clearance of the lift bridge in the normal (raised) position. This was understood in the cockpit as the clearance for the position they saw.

CHESAPEAKE AND DELAWARE CANAL BRIDGE CLEARANCES					
VERTICAL CLEARANCES ARE EXPRESSED IN FEET ABOVE MEAN HIGH WATER (MHW)					
	225 feet South of C/L	150 feet South of C/L	Centerline of Canal	150 feet North of C/L	225 feet North of C/L
REEDY PT BRIDGE	134 (133)	135	136	135	134 (133)
ST GEORGES BRIDGE E	132	134	137	134	132
ST GEORGES BRIDGE W			142		
CONRAIL LIFT BRIDGE	45 (Down) *129 (Low Lift) **137 (High Lift)		45 (Down) *130 (Low Lift) **138 (High Lift)		45 (Down) *129 (Low Lift) **137 (High Lift)
PIPELINE CROSSING	141	141	141	141	141
SUMMIT BRIDGE	135 (132)	137	138	137	135 (131)
CHESAPEAKE CITY BRIDGE	136 (135)	138	140	138	136 (134)

The Lookout, in the cockpit, did not see the bridge as a potential hazard. It was reported afterward that a train crossed the bridge as *INVINCIBLE* was approaching. Seeing the train did not raise a concern by anyone on deck to double check or verify the bridge clearance reported by the Nav Plotter.

The normal she norm call on CH 13 had been transmitted at 30 minutes, 15 minutes and just prior to

lowering and was copied by other STC of the squadron. *INVINCIBLE* did not hear it.

There was never an accurate determination why *INVINCIBLE* did not copy the sécurité' call. Monitoring the radio(s) (VHF and HF) is a responsibility of the Nav Plotter. The following are possible reasons, the first being most probable.

- Radio left on one channel (such as 82A) instead of returning to scan after an earlier communication. This is a common error.
- Radio volume turned down too low to hear.
- CH 13 not selected for scan mode (13, 16, and 82A are normal).

STC ahead in the canal did not verify that *INVINCIBLE* had heard the call because they thought *INVINCIBLE* was close behind and had already passed the railroad bridge. Squadron integrity was absent.

There was heavy (if not total) reliance on a single source of information for clearance beneath the lift bridge.

- The single source was clearance of 138 ft. (raised position) reported by the Nav Plotter to the Helm. But this report was not correct for the existing situation.
- Observing the train did not raise a question or prompt further evaluation.
- If not certain, or needing an additional source, a call to the bridge tender on VHF 13 was in order.
- The Skipper's discussion following passage beneath the first (highway) bridge had reinforced the difficulty in judging clearance visually. The crew paid little concern to the visual picture as *INVINCIBLE* approached the lift bridge. Observing the train did not raise a question or prompt further evaluation.

Conclusions.

The overall fault in this event is complacency and inattention leading to complete loss of situational awareness. No one looked hard (critically) at the situation unfolding or questioned what they saw. When things seem to be going well, there is a human tendency to relax, to dge. Observing the train dining attitude" is always a better frame of mind.

As in most incidents, there were faults or shortcomings that eventually caused the the "big problem." These may be seen as a chain of errors.

If any one of the links of this chain had not been present, *INVINCIBLE* may not have hit the bridge.

Standards of performance (examples: responsibilities of each watch station, content of pre-sail briefs, check lists) often break the error chain. Therefore, actively seeking, recognizing, and correcting errors and omissions of all types is necessary.

Careful and on-going assessment of crew performance (recognizing inadequate performance) within the context of each operation is an important part of situational awareness (see Section 3.7).

5.3.5 ALLISION WITH A BUOY IN THE DELAWARE BAY (Watchstanding, Fatigue, Error Chain, Situational Awareness)

Summary.

While proceeding southbound at night in the Delaware Bay, *BRAVE* hit lighted buoy G25. There were no personnel injuries; material damage was minimal (bow pulpit railing bent, paint scuff on starboard side). The immediate cause was failure by the watch team to track and avoid G25 after sighting it well ahead. The larger cause was poor situational awareness on the part of the Skipper and XO: principally not recognizing and correcting on-going deficient watchstanding performance.

Narrative.

BRAVE conducted three days of boat preparation and training and a 48 hour shakedown in the local operating area and the Chesapeake Bay. *BRAVE* then departed USNA Monday noon for a two week deployment to Westport, CT. The track was north in the Chesapeake Bay, through the C&D Canal, down the Delaware Bay, and then offshore to New England. The allision with G25 occurred during the first night of the deployment.

The five STC of the squadron transited the C&D Canal in company starting at sunset and exited the Canal after dark, then continued independently south in the Delaware Bay. Conditions: dark, overcast with good surface visibility. After starting south on the Liston Range, *BRAVE* commenced sailing on a starboard tack with second reef in the mainsail and #4 jib, point of sail close reach to beam reach.

After midnight, moderate traffic was encountered on the lower Liston and Cross Ledge ranges; first one merchant southbound/overtaking, then two contacts northbound / meeting (merchant followed closely by a tug pushing ahead). The contact avoidance tactic was to stay outside the channel and establish VHF communications to advise “*BRAVE* will remain outside the greens (west of the channel).” All contacts passed on *BRAVE*’s port side as intended.

Meeting with the northbound merchant occurred on the Cross Ledge range. That was followed closely by the tug/barge. *BRAVE* then turned at G29 to continue south and remain immediately west of the Miah Maull range. After passing G27 to port, G25 was sighted on the port bow. Sailing on a starboard tack resulted in G25 being behind the jib and not continuously visible to cockpit watchstanders.

Shortly before the allision, G25 was sighted very close on the bow. The helmsman, thinking to stay to the right and outside the channel, put the helm to starboard and toward the wind. The XO attempted to redirect the helmsman. The only chance to avoid the buoy would have been to put the helm to port and fall off the wind, turning the bow into the channel.

At 0210, *BRAVE* hit G25 head on and the buoy then passed down the starboard side.

Immediate actions:

Inspected the bilge for evidence of water entry into the hull (none), start the engine to improve steerageway, lower the jib, check steering and propulsion (response normal, no evidence of fouling the



prop or rudder), and inspect topside. *BRAVE* then proceeded to CG Station, Cape May, NJ for further inspections and material assessment.



BRAVE moored at Coast Guard Station, Cape May, NJ

Assessment.

The immediate cause was failure on the part of watchstanders to keep sight of G25 and remain clear of the buoy. As viewed from the cockpit, G25 was behind the jib and obscured from view.

However, and upon review, there were a number of individual problems leading up to this immediate cause. Had any of these shortcomings not existed, the chain of errors contributing to this incident may have been broken.

During Phase I of the block (daily operations in the local area), winds were light and variable. This limited training under sail, both individual skills (helmsman, tacking, gybing, man overboard) and section teamwork (reefing, sail changes). This led to making up for lost time during Phase II (48 hr. shakedown). This detracted from the required training of Phase II: watchstanding, communications, navigation, contact avoidance, and preparing for and operating in darkness.

Watchstanding, particularly navigation and communications within the watch sections, was unacceptable when the boat departed Annapolis. This was not recognized by the Skipper and XO. Review after the incident identified the following: fixes were not consistently determined at intended intervals, some fixes were not entered in logs, other fixes were not correctly entered, and the deck log contained few of the expected entries. Poor communication between watchstanders was a big factor later in the Delaware Bay.

After motoring through the C&D Canal and reaching the Liston Range (15 miles long), the Skipper decided to sail to conserve fuel early in the transit. Considering the inexperience of the crew (this was the first night of deployment) and the navigation challenges of the Delaware Bay, continuing under power would have been preferable. The workload of the watch team would have been reduced and made easier (examples: 360 degree visibility from the cockpit without the headsail, improved maneuverability in any close contact situation, headsail trim not required). Fatigue on the part of the Skipper contributed to this poor decision.

The Nav Plotter focused exclusively on determining and plotting boat position. He was not reporting position or making recommendations to the cockpit. He did not identify and report nav aids and hazards ahead. While a buoy is a nav aid, it also presents a hazard to safe passage. The Nav Plotter was not looking or thinking ahead (the essence of navigation).

Due to current and varying wind direction, Helm had difficulty remaining outside the green navigation aids marking the channel of the Liston range. This was not communicated by the Helm and it was not recognized by supervisors.

Completing passage of the Liston range, *BRAVE* then paralleled the channel of the Cross Ledge range, remaining outside the green nav aids. This required splitting the short distance (400 yds) between the channel markers and shoal water. This is possibly the most difficult part of the Delaware Bay. The crew was additionally challenged by two meeting situations in quick succession: a northbound merchant followed by a northbound tug and barge.

Meetings were completed port to port as intended. Soon thereafter, the boat turned to parallel the Miah Maull range. Here the distance between the channel markers and shoal water increases to 900 yds and there was an opportunity to move away from the green channel markers. Neither the Nav Plotter nor supervisor recognized the changed situation.

G25 was sighted sometime after leaving G27 to port. G25 is 2,000 yds from G27. But the sighting was not communicated to the Helm, Nav Plotter, or Watch Captain. There was not a proper flow of information between members of the watch team.

Allision with G25 occurred during turnover of the Midshipman watch section. Watch relief is usually a low point in overall watch performance as off-going individuals focus on turnover rather than remaining alert for changes in the overall picture and potential hazards (decreasing range to G25). At the same time, on-coming personnel are “coming up to speed.” The two Lookouts acknowledged they spent time discussing the close meeting situations that occurred earlier on the Cross Ledge range. There was poor turnover regarding the current surface picture and G25 ahead.

The XO and Helm both saw the buoy immediately prior to impact. The Helm, thinking to stay to the right and away from the channel, put the rudder to starboard – into the wind, which would have further reduced maneuverability. The XO attempted to correct the Helm but it was too late. Had the rudder been turned to port, off the wind and into the channel, the buoy might have been avoided.

Conclusions.

Several factors, individually and in combination, resulted in this incident.

The squadron was transiting the Delaware Bay in order to arrive in Westport, CT on Friday afternoon. Mid-day departure from Annapolis resulted in a night transit of the Delaware during the first 24 hours of the deployment. The Delaware is recognized as a more difficult navigation task than the alternate (longer) track down the Chesapeake Bay.

The Skipper’s action to switch from motoring to sailing on the Liston range was a poor decision. Fatigue was a factor. While alternating supervisory watches with the XO, he was also dealing with issues outside the boat as squadron OTC. He had not rested in the 20 hours prior to the allision. Fatigue adversely affects thinking and judgment; it must be recognized (self-assessment) and managed by making adjustments to get necessary rest.

The XO, though qualified, was making his first OSTTS deployment and had never previously transited the Delaware Bay.

The navigation routine expected of the Nav Plotter was not occurring:

- Consistent reports were not made to Helm of fixes (type and evaluation, course recommendations, and distance to shoal water).
- Log entries were omitted.
- Nav Plotter did not look ahead and report to Helm and Lookout nav hazards and nav aids expected along the track.
- Nav Plotter was likely overloaded due to lack of experience on this first night of the transit.
- Helm did not require the Nav Plotter to make the expected reports of position and course recommendations.
- The Lookout did not report sighting of nav aids to the Nav Plotter.

Phase II (48 hr. shakedown) is the period for teaching watch skills, learning the necessary communications, and building effective watch teams. As noted, this critical aspect of training was degraded by time given over to sail and skills training that had not been completed during daily ops (Phase I).

The close meeting situation on the Cross Ledge range, while handled properly, distracted crewmembers from concurrent responsibilities for navigation.

The watch section did not give appropriate priority to tracking and avoiding G25, even though it was sighted ahead with sufficient time to evaluate and adjust course.

Items above were specific errors and shortcomings by individuals, some with experience and others with little or none.

More significant, however, was failure to recognize the bigger picture, often called “situational awareness.” In Section 3.7 of this Experiential Leadership Guide, situational awareness is described as the sum of (1) Recognizing what is going on (on board own vessel and in the immediate vicinity), (2) Identifying things that can affect you, (3) Evaluating/judging the things that can affect you, and finally (4) Acting to ensure the desired outcome.

Early in the deployment, Skippers/XOs carry the greatest responsibility for situational awareness. Even though check rides have been completed successfully, Skippers/XOs should not expect that the many things taught and learned during training are being carried forward. The short length of OSTs requires a continuing supervisory discipline of observing, evaluating, and corrective action wherever necessary. Good situational awareness includes knowing strengths and weaknesses within the crew and routinely evaluating performance.

As the deployment progresses, there should be an increasing level of situational awareness on the part of the watch team. Through personal doing, there is better understanding of the responsibilities and interfaces of each watch station. Good communication builds a common understanding of the current tactical picture and potential problems. The Watch Captain should be required to oversee performance of his/her section. All these will build team situational awareness.

Finally: if you think things are OK, look (and think) again.

5.3.6 HITTING A BUOY IN ELK RIVER (Complacency, Watchstanding, Situational Awareness)

Summary.

WARRIOR, en route to Annapolis from the C & D Canal, while proceeding southbound in the Elk River (vicinity of the Bohemia River), struck channel buoy G13. There were no personnel injuries and material damage was minor.

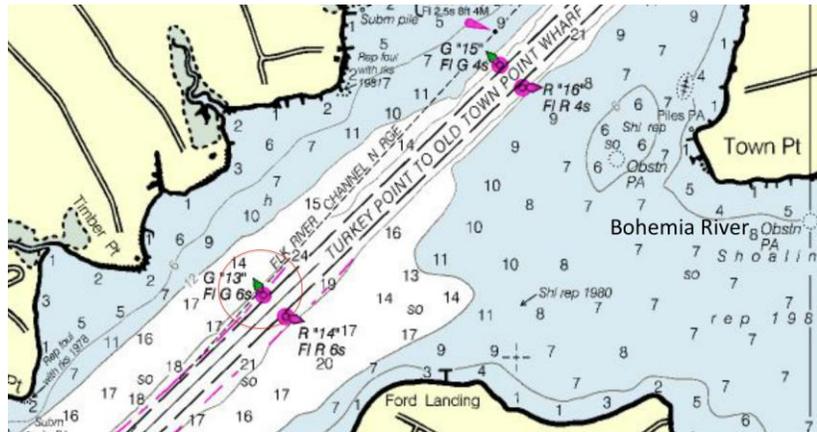
The immediate cause of the incident was poor watchstanding. There was an over-arching lack of situational awareness on the part of watchstanders and supervisors.

Narrative.

WARRIOR was inbound to Annapolis following a deployment to Rockport, MA. The squadron had transited the C&D Canal in company and during morning daylight. *WARRIOR* was motoring at 7 knots, the fourth boat in a column of five STC. All sails were down. Weather was clear and sunny, winds were light, visibility unlimited, seas calm. The only traffic in the area was the five STC of the squadron.

The Elk River channel in this area is 150 yds wide. Shoal water (18ft) is close outside the line of buoys on the both sides of the channel.

Lunch for the crew had been completed and on-coming watchstanders had relieved the watch. The off-going section was below. While the off-going section had four (4) watchstanders, three (3) individuals comprised the on-coming section. One watchstander of the on-coming team was the Nav Plotter, who was below at the nav table, a second individual had the helm, and the Watch Captain was washing lunch dishes in the galley. The Helmsman was also acting as Lookout. Skipper and XO were in the cockpit reviewing activities that would follow mooring in Santee Basin later that day.



Shortly before 1200, the OTC on *INVINCIBLE* (traveling fifth in line at the end of the column) had released all boats to proceed independently to Annapolis. This occurred prior to watch turnover on *WARRIOR* and apparently was not understood by the afternoon watch now operating *WARRIOR*.

Prior to the allision, *INVINCIBLE* had been closing on *WARRIOR* and had reached a point several boat lengths off *WARRIOR*'s port quarter. Helm in *WARRIOR* was keeping to the starboard side of the channel to allow *WARRIOR* to pass. Helm was also checking *INVINCIBLE*'s position by looking over his left shoulder. It is probable that he inadvertently steered too far to the right. It is also probable that Helm's view forward was obscured by the boom, which was likely lower than normal due to sails being down, but still having the halyard attached in case of emergency. There was no Lookout forward of the mast as the Helm was performing the duties of the Lookout. It is likely that no one was aware of G-13 as no attempt (change of course or speed) was made to avoid it. The first indication was the bow striking the buoy. That occurred about 1245.

Immediate Action. *WARRIOR* stopped. Inspections were conducted below decks and topside. There was no water entry into the hull and the only damage (immediate bow area) was determined to be minor. After phone reports to the Navy Sailing Duty Officer and Director OSTs, *WARRIOR* was authorized to continue to Annapolis.

Assessment.

The following factors were significant this incident.

The Helm was operating the boat and but was also the de facto Lookout. Problems: One individual acting as Helm and Lookout was an unsatisfactory combination of responsibilities. Additionally, it is highly advisable to normally station the Lookout well forward in certain situations. Transiting a narrow channel marked by buoys is one of those situations.

The Nav Plotter was at the chart table but did not fix ship's position as required. The last two fixes (both GPS) plotted were at 1130 and 1200. No fixes (of any kind) were plotted between 1200 and 1245 (time of the incident). Problem: The boat was operating in "restricted waters" (less than two miles from land or shoal water). The frequency of fixes was well outside any navigation standard. He apparently was also not communicating to the Helm on potential nav hazards.

The Watch Captain (MIDN supervisor of the section) was below decks washing dishes. Problem: The Watch Captain is not required to be continuously in the cockpit. But in washing dishes he was clearly not performing his primary responsibilities.

The Skipper and XO were in the cockpit and focused on arrival in Annapolis ("boat business and paperwork"). It is not clear who was responsible for (or exercising) oversight of operations. Additionally, they did not identify and correct the unsatisfactory watch performance.

Returning home after a period of absence creates a unique distraction – "channel fever" – meaning preoccupation with activities ashore that detract from attention to immediate duties.

Over the longer term, navigation on board *WARRIOR* had not been conducted in accordance with SOPs. There was little evidence that recurring deficiencies had been recognized or addressed.

Based on logs, fixes during the return transit from Rockport had been taken every 45 minutes on average. All fixes were GPS, none were visual or radar. Intent is that visual and radar fixes are used when available. Fix intervals are to be established consistent with distance to shoal water and approved by the Skipper/XO.

No track was marked on charts for the head of Chesapeake Bay (Elk River). No courses or speeds were identified. Problem: chart preparation and review.

WARRIOR had conducted a successful deployment – until this incident. Certification check ride had been completed successfully following local area training, there were no issues during the outbound transit from Annapolis to Rockport, liberty ashore had been excellent, and the return appeared to proceeding satisfactorily. Concern: Overconfidence and complacency in the final hours of the deployment.

Conclusions.

There are two patterns evident, poor watchstanding and situational awareness.

There were individual omissions, errors, and shortcomings in watch performance. The primary fault was one individual acting as Helm and Lookout. While being overtaken and concerned/checking to port and astern as Helmsman, the individual (as Lookout) failed to see the buoy on the starboard bow. A single person should not have been allowed (or expected) to handle these two sets of responsibilities.

Overlooking requirements or failing to enforce known standards has a corrosive effect in any organization. It creates an environment where "something less" becomes acceptable and eventually is the new (lower) standard. Inevitably, accumulation of individual problems and poor practices leads to "bad things" happening. It is not a matter of "if," just a matter of "when." Identifying problems, taking corrective action, and understanding the impact of uncorrected issues EARLY in the training session is one piece of overall situational awareness – especially for supervisors.

Poor situational awareness is a problem of not seeing or comprehending a “bigger picture”, and it existed in two parts, near term and long term.

Poor near term situational awareness: Three supervisors (Skipper, XO, Watch Captain) were up and about in the time leading up to the incident. None appeared to act as a supervisor or provided an appropriate measure of attention to passage through a narrow channel with shoal water close outside the channel markers. They did not notice the inattention of the Nav Plotter. They did not perceive the risks created when there was a single watchstander topside and he was the Helmsman.

Poor long term situational awareness. There were on-going shortcomings in navigation; apparently starting with chart preparation (absence of tracks on some charts), failure to use visual or radar fixes as required/intended, fix intervals not established consistent with distance to land/shoal water, and failure to communicate location of nav hazards to the on-deck watch. Having three watchstanders in one section, and four in the other, existed for the entire block. What direction was in place and did supervisors ensure that watches were being stood correctly in the three-person section?

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5.3.7 RUDDER CASUALTY (Standard Commands, Error Chain)

Summary:

The rudder control mechanism on Navy 44 *COMMITMENT* failed during an uncontrolled gybe offshore in storm conditions. Control of the STC was lost until the emergency tiller was rigged and the engine placed in operation to regain steerageway. Potential for personnel injury and further material damage was mitigated by the excellent immediate actions of the Midshipman Skipper.

Narrative:

COMMITMENT was offshore en route to Newport, RI. The crew had minimal experience, having departed Annapolis three days before. Increasing winds during the night had been predicted. The casualty occurred in full darkness (about 0300), in difficult conditions (wind 15 kts, gusting to 20; seas 5-6 ft). The XO was on deck and the Skipper was initially below.

The initial error occurred when the boat tacked from close-hauled starboard to close-hauled port. Helm issued the correct preparatory command (“ready about”) but did not wait for acknowledgement by his crew, i.e. “ready port” and “ready starboard.” Instead, he immediately put the helm over to start the maneuver. (Recall the sequence of standard commands: preparatory command, acknowledgement by crew, and initiating command to commence the evolution.)

The bow passed through the wind to a port tack, but the active jib sheet was not cast off, and the jib backed. Helm shifted the rudder and successfully brought the bow back through the wind to re-establish a starboard tack; but in so doing, steerage way was greatly reduced. Due to gusts and shifting wind direction, the jib backed a second time and the bow started falling off to leeward (starboard).

Helm did not recognize that steerage way had now been lost and continued to hold the rudder full over port, attempting to bring the bow left in order to again correct the backed jib.

The bow continued to fall off to starboard leading to an uncontrolled gybe. As the stern came through the wind, the seas took control of the rudder, wrested the wheel from the hands of the Helm, and shifted the rudder from full port to hard over starboard. As the rudder shifted violently against the rudder stops, the steering cable jammed in one of the steering system turning blocks and parted, rendering normal rudder control inoperative.

The Skipper, awakened by the noise on deck and boat movement, came on deck, assessed the situation and immediately directed corrective actions. The emergency tiller was rigged to control the rudder. The engine was started and engaged to gain steerageway. The bow was brought into the wind, the jib doused and secured on the forward deck. A reef was taken in the mainsail.

With the situation now stabilized, the Skipper ordered the boat to come off the wind on a starboard tack. The mainsail boom suddenly streamed full out to port. The main sheet was free of the port winch self-tailer and the boom was therefore uncontrolled. The starboard preventer was led to the starboard toe rail to bring the boom amidships. The port preventer was secured to the port toe rail and tensioned to establish control of the boom in both directions. The port side end of the main sheet was secured in its winch, returning the mainsheet to a normal configuration. After securing the sails, the boat was diverted to Freeport (Long Island), NY, under power and emergency tiller, for repairs to the steering system.

Assessment.

The Midshipman Skipper assessed the situation and took excellent immediate and accurate action in directing his crew, re-establishing control of the boat, and preventing personnel injury (the uncontrolled boom). Notably, he also promptly reviewed the incident with his crew, thereby maintaining confidence in themselves and their boat.

Personnel error was the immediate cause of the aborted tack and this led to a cascading series of mishaps making this a significant, potentially serious event.

Helm gave the correct preparatory command for tacking: “ready about.” But he did not require proper acknowledgement from his crew, i.e. “ready port” and “ready starboard,” indicating they were prepared to tack. Neither the XO nor any crewmember intervened to correct this error. Standard commands and acknowledgements were not enforced. The crew was not positioned or ready to carry out the maneuver. When the boat turned through the wind, crew did not cast off the active jib sheet and the jib backed. This set the stage for everything that followed.

Helm corrected the backed jib by turning the boat back through the wind to regain a starboard tack. While not wrong, an alternative would have been to cast off the active sheet, take on the prior lazy sheet, and trim the jib for the intended port tack. However, turning back through the wind compounded the initial error by causing complete loss of steerageway.

When the jib backed the second time and the bow started falling off to starboard (leeward), Helm kept the rudder to port, attempting to counter-act the bow’s movement to starboard. Helm should have brought the rudder back to center to re-establish flow of water around the rudder, and regain steerage. If the rudder had been moved to center it may have prevented the gybe, or at least reduced the sudden heavy load on the steering system, as the boat gybed, and the casualty may have been prevented.

It could not be determined just when (or why) the port side of the main sheet was not properly secured in the self tailer, causing the boom to run free. It likely came free during the uncontrolled gybe.

The full situation became clear after return to Annapolis (10 days later) when the engine stopped while moving the boat under power from the Cutter Shed to its normal Santee Basin slip. The end of the port main sheet was found wrapped around the prop/propeller shaft.

Not understood in the near term, the main sheet had been overboard and become fouled in the prop. Control of the main sheet had been restored, but the abnormal symptoms observed (frayed bitter end) had not been pursued to a complete/accurate resolution. Engine power could have been lost at any point following the initial casualty, including the transit from Freeport to Annapolis.

Finally - whenever starting the engine, first ensure all lines/sheets are clear of the water.

Conclusion. One error (failure to ensure the crew was ready to tack as determined by reports of “ready port” and “ready starboard”) led to a series of mishaps that culminated in losing control of the boat. Good performance by the Midshipman Skipper prevented possible personnel injury due to the uncontrolled mainsail boom. The crew were very fortunate to avoid further errors due to the fouled main sheet. The episode demonstrates the need for compliance with the discipline of standard commands and acknowledgements by crewmembers.

5.3.8 RUNNING AGROUND IN EASTERN BAY (NA44) (Phase II Training, Navigation Performance, Watchstanding, Situational Awareness)

Summary:

While proceeding from Chesapeake Bay into Eastern Bay and in the vicinity of buoy G1, *DARING* conducted a man overboard drill. After completing the drill, *DARING* maneuvered to avoid numerous crab pot floats and ran aground southeast of Kent Point. A commercial tow was required to free *DARING* from the grounded position. There were no personnel injuries, material damage was limited to scraped paint on the keel. The primary cause was focus on avoiding crab pot floats and inattention to the navigation picture (poor situational awareness).

Narrative:

DARING was underway in the Annapolis local operating area on the first day of Phase II training (48 hour shakedown). During the just-completed Phase I (daily operations), winds had often been in excess of 20 kts and training evolutions to develop sailing skills had taken longer than planned. Repetition of exercises to reinforce skills had not been achieved as intended. Sea sickness had also been an issue as medications had not yet been obtained by the crew. At the conclusion of Phase I, the crew was behind the expected learning curve.

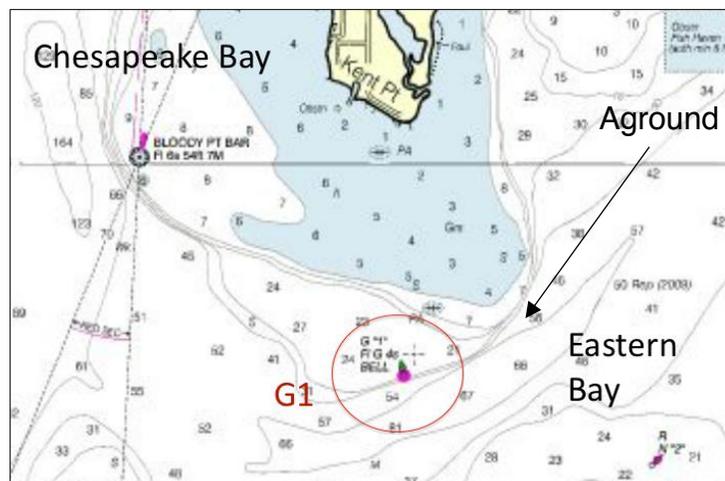
This first day of Phase II was the Fourth of July. The Skipper decided to go to Eastern Bay and out of the holiday pleasure boat traffic to conduct an anchoring exercise. This decision would take *DARING* out of the local operating area. Weather was clear and winds were about 15 kts.

While billets had been assigned at the beginning of the block, watch sections had not yet been established. The crew was operating in an “all hands” mode. Helm was rotated hourly for training. The assigned Nav and ANav had just started taking and plotting visual fixes.

Shortly after the helm was relieved at 1500 *DARING* was west of buoy G1 steering 088M to enter Eastern Bay. A man overboard (MOB) drill was initiated. Several passes were required before “Oscar” was recovered.

During the recovery attempts, *DARING* had passed G1, leaving it to the south. Within minutes, a large field of crab pot floats was encountered.

A 1525 position was plotted on the chart based on a “seaman’s eye” position of G1 and reported from topside. The DR indicated heading toward shoal water. The plotter recommended a course of 065 to avoid shoal water. The recommendation was acknowledged but Helm consistently steered to port while avoiding the crab floats. *DARING* ran aground about 1600 SSE of Kent Point.



Immediate actions:

DARING's crew inspected the bilges and interior of the boat, no problems found. No personal injuries had occurred. Attempts were made to dislodge from the sand bar with rudder and engine, and then kedging with the anchor, to free the boat, but they were not successful.

The OTC in *WARRIOR* came to the scene. An attempt to rig a tow line was subsequently aborted because of the proximity of shoal water, an ebbing tide, and wind direction (at 20 kts) tending to push *DARING* further into shoal water.

TowBoat US was called and arrived about 1900. *DARING* was towed clear of shoal water at 2015. After returning to port the next day, the underwater hull and keel were inspected by divers. No damage was noted, only some paint missing on the keel.

Assessment:

At least three issues contributed to this grounding:

- 1) Situational awareness was lost before the grounding.
- 2) Navigation readiness was lacking for operation beyond the Annapolis local operating area.
- 3) The crew had not attained Phase I proficiency prior to getting underway for Phase II operations.

Situational awareness.

The Skipper/XO team must determine when and where to conduct evolutions for training, giving sufficient allowances for time, location, and errors that should be expected. A conservative approach is mandatory. It is appropriate to set boundaries that would trigger a "time out" if encroaching on limiting conditions. Two such limits are navigational position and depth of water - with sea room for unanticipated maneuvers. Depth of water is one parameter that is continuously available and easy to monitor. Crew proficiency and margins for error must always be considered as part of situational awareness, since it typically takes longer to complete a training evolution with a novice crew than it does with an experienced crew. Performing a MOB exercise while passing shoal water off Kent Point at the level of training described was questionable.

During the MOB exercise, *DARING* had passed on the wrong side of G1; between G1 and shoal water. In reviewing the grounding, no apparent reaction was evident to what should have been a significant concern.

Upon finally recovering "Oscar," *DARING* was confronted with an area of crab pot floats. While crab pots are planted at different depths during the crabbing season, they are normally in relatively shallow water (relative to the 18 ft limit that defines shoal water for OSTs operations). Navy 44's normally operate in deeper water than crab pots. The presence of many crab floats should have been considered a potential hazard and depth of water verified.

The position reported at 1525 relative to G1 was plotted and the DR was recognized as heading toward shoal water. A course to avoid shoal water was recommended and acknowledged, but Helm continued to steer to the left (north of recommended course) as the best means of avoiding the crab floats. Priorities should have changed. (Employing the OODA loop into critical thinking may have led to a different decision, and broken the error chain). The new, immediate priority to turn right (and South) away from shoal water was not recognized. The recommended course change should have been a dramatic change to the South versus the minor course correction to the NE (steer course 065) that was recommended by the

Nav Plotter. The boat's position plotted at 1525 was also questionable to its accuracy given the recommended course to steer.

Appropriate situational awareness includes perceiving changes that affect the boat and acting to mitigate threats to safe operation. The developing danger of running aground was not recognized and not addressed. This is poor situational awareness. Developing good situational awareness is a function of the watch team and as well as a responsibility of supervisors; Skipper, XO, and Watch Captain.

Navigation readiness for operations beyond the Annapolis local operating area.

The local operating area is defined in the SOP as bounded by the Route 50 bridge over the Severn River, the Chesapeake Bay Bridge, and a line between Thomas Point Shoal Light and Bloody Point Light. Within the local operating area, a navigation plot is not required per se but is “highly encouraged.”

In the local area, two charts are to be on board: 12270 Chesapeake Bay, Eastern Bay and South River and 12283 Annapolis Harbor. Outside the local area, “applicable charts” are required. Both in and beyond the local area, charts used are to be fully prepared using the chart prep check list (tracks plotted, nav aids identified / highlighted, and other requirements) as outlined in SOP 901.

By design, Phase II takes the crew away from the local operating area, normally down the Bay to the Patuxent or Potomac Rivers or north of the Chesapeake Bay Bridge. While crew proficiency is low at the beginning of Phase II, crew organization and on board resources must be ready at the outset in order to achieve the full measure of training required for crew certification and deployment.

DARING was not ready to operate outside the local operating area and in Eastern Bay when she got underway for Phase II training. Examples: the crew was not yet functioning on a watch section basis, the Navigator and Assistant Navigator (only) had just started taking / plotting visual fixes, the chart in use had not been prepared but was taken as an extra from the file in the Crown Sailing Center, no track had been entered on the chart, and a normal navigation plot was not functioning.

(NOTE: Upon reviewing the lessons learned from this incident, OSTs incorporated some changes into the training program for the next block. Additional plotting practice was added for 3/C in the Week 1 classroom curriculum. On the first day of Week 2, all STC were required to complete underway training in navigation only, to gain proficiency in plotting using visual fixes.)

Level of crew training at the beginning of Phase II.

Phase I is defined as boat familiarization and underway training. Underway time focuses on sailing skills and is often conducted on an “all hands” basis. But concurrently, watch sections should be formed and navigation skills and practices firmly established. Specific goals should be set for Phase I so that upon completion, the STC and the crew are ready to conduct 2 days of continuous underway operations, to include night sailing, on a watch section basis and typically outside the local operating area.

Phase II training consists of a "48-hour overnight" sail out of the local operating area along with a standardization check ride on that Friday. During Phase II the boat needs to operate on a section basis, advance navigation skills into an integrated navigation routine, teach operations in darkness, apply the rules of the road, learn shipping contact avoidance, gain experience in radio communications, and introduce squadron integrity. Phase II is the only opportunity to establish underway watch section practices that are prerequisites for deployment and also to become proficient in the basic skills learned during Phase I.

In short, Phase I establishes readiness for Phase II. Phase II and crew certification determine readiness for deployment (Phase III). Using Phase II to complete training that should have been completed in Phase I leads to difficulty in gaining the required Phase II proficiency. This particular crew should have been considered not ready to conduct Phase II. This is an evaluation/judgment belonging to the Skipper and XO.

Conclusions.

The practical aspects of situational awareness should be well understood and implemented by the Skipper, XO, and Watch Captains (that is, those exercising oversight of operations). The practical traits of situational awareness should then be taught to and continually re-enforced with the crew as all phase-level training continues. You will do well to remember that it always takes longer to execute a training maneuver, so you need to plan sufficient “runway” to accomplish the task.

Navigation readiness for operations outside the local area should include (on the part of each crew member) ability to fix ship’s position, apply the “six rules of DR”, communicate in standard navigation terms and format with the Helm and Lookout, knowledge and understanding of navigation logs (off-shore (data) log, deck (narrative) log, and bearing book), and the basics of VHF radio operation. All will be reinforced in Phase II. The Skipper and XO need to be proficient in "mentally" fixing the position of the boat by looking around and maintaining a conservative navigational picture while training the crew (e.g., remain near the center of the bay instead of on the fringes of shallow areas or near prominent points of land that typically extend into the bay as shoal water).

Understand the goals/objectives of Phase I. If they have not been achieved, it may be appropriate to remain in the local operating area until crew organization, proficiencies, and navigation all support transitioning to operations consistent with Phase II (continuously underway on a section basis and beyond the local area). If behind the learning curve, this will create difficulties in completing Phase II (and crew cert) on a normal schedule. However, it will be preferable to adjust early in order to achieve overall readiness for deployment. The Skipper needs to make this decision after discussing with DNAS and the Director OSTs. This may mean the crew will need to train over the weekend to complete all Phase I and II requirements.

5.3.9 RUNNING AGROUND IN LONG ISLAND SOUND (YP) (Standards of Navigation, Fatigue, Situational Awareness)

Introduction.

This incident occurred during LANTPAT (Atlantic Professional Afloat Training) (YPs) and some terms used here reflect YP operations and procedures. However, the issues and shortcomings leading to these two groundings are fundamental to proper navigation, watchstanding, and training. They apply equally in yard patrol craft (YP), sail training craft (STC), and warships of all types.

Do NOT consider the problems here as YP specific and “not applicable” in your situation. Specifically, the navigation standards in LANTPAT are virtually the same in OSTS and in all surface ships (SURFLANT/ SURFPAC/ AIRLANT/ AIRPAC).

Summary. LANTPAT Squadron 2A, four YPs (680, 682, 688, and 692), completed a northbound transit of New York City’s East River and passed under the Throgs Neck Bridge into the southwest end of Long Island (LI) Sound. While proceeding north in formation (column of 4 YPs), the squadron attempted to pass/leave Stepping Stones Light to port. The planned track placed Stepping Stones Light to starboard. YPs 688 (guide and first in the column) and 692 (third) grounded in shoal water to port (east) of Stepping Stones Light. YP 682 (second in the column) passed through shoal water without grounding. YP 680 (fourth/last) stopped and avoided shoal water.

There were no personnel casualties. YP 688 suffered significant damage to the starboard propeller, starboard shaft and drive train. YP 692 sustained minor damage to the starboard propeller.

Narrative.

Week 1 of the block was the in-port and underway training phase and was conducted in the Annapolis operating area. Several events occurred during Week 1 that became factors in the groundings.

One set of charts for each LANTPAT block is prepared by officers of the Department of Seamanship and Navigation (SEANAV). After reproduction, a set of charts is provided to the Officer in Charge (OIC) of each YP. Prepared charts and a hard copy of VMS (Voyage Management System) track data points were first provided to the crews of Squadron 2A on Wednesday, 3 days before scheduled ETD from Annapolis on Saturday. Late arrival of the charts limited time available for chart review by YP leaders and training the MIDN crew. Late availability of track data points also affected accurate entry of the track data points into each YP’s VMS.

A navigation brief was conducted at 1300 Friday for the OTC, OICs, Craftmasters (CMs), MIDN 1/C (each YP had a 1/C as MIDN OIC), and YP MIDN Navigators (each YP). Chairman SEANAV considered the brief substandard. A second navigation brief was conducted Saturday at 1830 to address the shortcomings of the previous day. Some of the OICs and CMs, after the second brief, remained concerned about the content of the brief. No additional action was taken.

Severe thunderstorms occurred in the Annapolis area during Friday night causing widespread and sustained electrical outages (days in many cases) plus local storm damage. This significantly disrupted the normal living routine, and limited the rest of most YP leaders prior to departure. All four YP OICs and two of the four CMs considered fatigue to be a factor in the incident.

Squadron 2A departed Annapolis about 0430 on Sunday, transited north in the Chesapeake Bay, then C&D Canal, Delaware Bay, Cape May, and offshore to New York City. After passing through the East River and Hell Gate, the squadron entered Long Island (LI) Sound at its southwest end. The specified track was northbound, leaving Stepping Stones Light to starboard and then Hart Island (further north) to port. There is shoal water east of Stepping Stones Light between the light and Long Island.

Early in the day of the grounding (Monday), several individuals (ex: OIC, CM, MIDN OIC) on the bridges of the YPs behind YP 688 (the formation guide) became concerned because the guide was often

to right of track or making wide turns. CM of YP 682 (in vicinity of Brooklyn Bridge) recommended to his OIC (also the OTC) that the guide should be changed. Later, the guide maneuvered late in a contact avoidance situation with a tug and barge. No specific actions were taken in either situation.

Upon exiting the East River and turning north, the squadron continued in formation (line ahead, 200 yds between each YP) with YP 688 remaining in the lead as guide; YP 682 (OIC also serving as OTC) second in line, YP 692 third and YP 680 last. It was early afternoon, visibility clear, sea state 1'.

A lighthouse was sighted ahead of the guide (YP 688), range 2 NM. There was confusion on the bridge of the guide as to identification of the lighthouse. Agreement emerged that the lighthouse was "Hart Island Light." Recommendation was made and accepted to leave the light to port. This was consistent with charted position of Hart Island relative to track. YP 688 changed course to the right from 006° to 033° to leave the light to port.

The light in question was actually Stepping Stones Light. Hart Island was 1.3 NM further ahead. The navigation aid that had been judged to be "Hart Island Light" is lighted day mark R46 (Fl R 4 sec 23 ft).

At 1522 YP 688 grounded SE / about 300 yards from Stepping Stones Light. YP 692 grounded shortly thereafter.

Immediate actions. YPs 688 and 692 conducted inspections to evaluate damage. All units maneuvered clear of shoal water and proceeded to the US Merchant Marine Academy at Kings Point, NY for further inspections and assessments. YP 688 was determined unfit for further operations pending repairs. YP 692 was considered safe to return to Annapolis.

Assessment.

The expected navigation reference in all YPs was paper charts with tracks, courses and speeds specified, nav aids identified and highlighted, plus other requirements of the chart preparation check list (which is the same used in OSTs).

Chart 12366 (Long Island Sound and East River) was the chart in use. Stepping Stones Light was not identified on the chart as a visual navigation aid. The light at Hart Island was identified and marked. No danger bearings were plotted. The investigating officer considered chart preparation inadequate due to similar recurring deficiencies.



Periodic fixes were to be plotted. Fixes may be (in order of priority) GPS, visual, radar, or composite (combination of radar range and visual LOP).

The ship's position log in YP 688 (guide) had no recorded positions after 1502. YP 688 ran aground at 1522. The ship's position log in YP 680 had no entries after 1404

A dead reckoning (DR) track is required from each fix. No DR track was maintained on board any of the YPs.

No watch team on the four YPs correctly identified Stepping Stones Light. YP 688 correctly identified the lighted day mark at Hart Island as "Hart Island light."

Infrequent fixes and the total absence of a DR track indicated navigation was largely reliant on "seaman's eye." On board the guide, when confusion arose over the lighthouse ahead, attention probably focused on the nav aid that was identified and marked on the chart (at Hart Island). Failure during chart preparation and review to identify and mark Stepping Stones Light appears to have been a critical omission.

VMS, a widely used Navy electronic navigation system similar to a commercial chart plotter, is available in YPs and intended for use as a situational awareness (SA) tool.

VMS requires (as part of voyage planning) validating that required charts have been called up from memory and are ready; entering track data points/way points to establish the electronic track; and properly configuring the system. VMS can provide a real time own ship heading/speed vector on its chart display once all requirements are met.

VMS in YP 688 (the guide) was not in the approved configuration; soundings and bottom contours were not displayed. Land areas and navigation aids were displayed but water areas were a uniform color with no depth information.

Conclusions.

The investigation determined four immediate contributors to the groundings.

- Lack of navigation awareness. Specifically, established/well known navigation procedures were not followed.

- OICs/OTC became single points of failure.

- Fatigue was a factor in the performance of all four OICs (one was also OTC) and two of four YP CMs.

- OICs made mistakes.

Navigation involves ship's position, now and future. It is not just a record of where the ship has been; that is, fixes plotted and logged. Navigation requires looking ahead, assessing future position, and acting to ensure safe passage.

The first step is voyage planning; chart preparation and navigation tool calibration (in this case, VMS). The second step is a fix that defines present position – and becomes the basis for looking ahead to where the ship will be at given time. The third step is the "look ahead. This is the DR track. The standards for DR are universal in the Navy and maritime communities and are often called the "six rules of DR."

The first two steps were (very) deficient in this incident. The third was entirely absent in all four YPs. Without all three, the evaluation of what is seen ahead is an educated guess – at best. In this case, the conclusion was not correct.

Each vessel is always responsible for its own navigation, whether operating independently or in company/formation. There is a tendency, when following behind or maintaining station, to focus primarily on position relative to other ships. The outcome of following the guide absent independent navigation in this case is clear.

OICs became single points of failure due to the cumulative effect of poor chart preparation, substandard navigation briefs, inexperience of MIDN watchstanders, lack of teamwork by OICs and CMs and of lack of forceful backup.

The original voyage plan required navigating through New York City/East River at night. With inexperienced crews, this represented significant risk. The passage occurred in daylight only because departure from USNA was delayed. Some OICs and CMs, after the second nav brief, remained concerned about the content of the brief. No specific action was taken to mitigate that risk while the YPs were still in their planning stages.

It was accepted practice to use cell phones and text messages to discuss operations. The rationale was avoiding embarrassment to individuals if concerned about another boat in the formation. Professionalism and teamwork require communicating factually and openly on matters such as position of a vessel. Radio nets provide information for all units and contribute to situational awareness. Cell phones and text message should be limited to administrative matters.

Fatigue. Thunderstorms that led to electrical outages (no air conditioning in 90 degree weather), and personnel dealing with storm damage before departing Annapolis caused initial sleep deficit for key personnel upon getting underway. Certain practices of the underway routine contributed further to fatigue and resultant poor performance.

OICs and CMs were both normally on the bridge during daylight hours. They each stood watch for 6 hours at night and slept for 6 hours. This resulted in about 18 hours awake in each 24 hour period. This routine does not provide adequate rest. Fatigue degrades alertness, judgment, and performance. It is preferable that the OIC and CM of YPs (Skipper and XO in STC) split the time on the bridge (or in the cockpit) so that both get sufficient rest. Stand watches of similar length to Midshipman watches. Relieve the watch at the mid-point of Midshipman watches so that both observe and evaluate each watch section. Full exchange of information and formal relief are necessary.

There are significant differences in operating warships with qualified, experienced watchstanders compared to the training environment of YPs and STC with MIDN. Presence of supervisors (OIC/Skipper/CM/XO) is not sufficient in itself; active observation, continuing evaluation, and coaching/corrective action when necessary - all are needed. It is demanding work, physically and mentally.

This grounding also involved lack of situational awareness (SA). One experienced commanding officer-summarized Situation Awareness as follows:

Accurately perceiving what is going on around you, both on and near your vessel.

Accurately discerning which developments have the potential to impact you.

Comprehending the significance of those changes.

Formulating a correct course of action for maintaining control of the situation.

(See also Chapter 3.7 of this Experiential Leadership Guide)

Issues demonstrating poor situational awareness.

A focus on Hell Gate, during nav briefings, that led to a feeling that once beyond Hell Gate the hard part of the transit would be over. Resultant complacency hindered recognizing danger when approaching Stepping Stones Light. OIC YP 688 did not sense a problem until the craft had run aground.

Continuing concerns, following the second nav brief, about adequacy of material that had been presented.

Apparent lack of concern regarding VMS chart presentation: no soundings and lack of depth contours.

Not acting on the potential for risk in the guide's performance: often to the right of track, wide turns, late maneuver in contact avoidance.

Accepting lack of timely and consistent fixes.

Absence of DR tracks on all four YPs.

Failure to recognize and correct deficiencies in charts being used. Most significant: Stepping Stones Light not highlighted and marked. Danger bearings were not plotted.

An accurate fix and good DR would have avoided confusion upon sighting Stepping Stones Light.

Ignoring the fatigue that must have been felt by individual OICs and CMs and adjusting the watch system to facilitate rest.

Finally, the first task of the OIC/CM team (LANTPAT) and the Skipper/XO team (OSTS) is training the MIDN crew for the mission. Overseeing operations follows. The primary responsibility is always safety. Underway, the hardest part is performing active and on-going assessments in all three areas: training, management of operations and safety. At the same time, the overall mission requires providing MIDN an active role in the leadership and operation of the vessel. Accurate self-assessment of your situation and judgment is a key element of personal situational awareness for the senior person on watch. Sufficient rest is important and lack of proper rest can significantly degrade situational awareness and decision making.

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5.3.10 RULES OF THE ROAD AND ETHICS (Complying with and Understanding the Intent of the Rules of the Road)

Summary:

While motor sailing during an underway training period for potential Skippers and XOs, a Midshipman 2/C (the designated Watch Captain) had the helm. A crossing situation developed in which the STC was the give-way vessel and a large motor yacht was the stand-on vessel. Helm determined to maintain course and speed because the motor yacht “does not know we are motor sailing.” Helm expected the power vessel to give way to a sailing vessel.

Narrative.

A two week block for training and evaluation of potential Skippers and XOs was in its final phase, an overnight (down and back) in the Chesapeake Bay. The objective was assessment of operational skills and leadership. Candidates were also told they would be assessed on their maturity and attitude for serving as CO or XO on a Navy 44. When necessary, a reflective period would be allowed so candidates could self-assess their performance. The training plan included having each candidate serve for a period as Watch Captain in order to evaluate their performance, judgment, attitude and leadership.

One Midshipman XO candidate had good sailing knowledge and skills. However, he had also demonstrated a consistent “know-it-all” attitude throughout the training, and bluffed his way through what he didn’t know. He had been counseled about his attitude earlier in the training period.

The Navy 44 was sailing southbound in the Chesapeake Bay in daylight approaching the Patuxent River. The wind direction required tacking across the southbound track. The Midshipman XO candidate was at the helm and failed to recognize improperly trimmed sails which resulted in some bad tacks.

He decided to run the engine to charge batteries and engaged the propeller. The STC was therefore motor sailing on a starboard tack crossing the Bay. A large motor yacht was approaching so as to cross the STC’s track from right to left. Concurrently, the motor yacht had a constant bearing and decreasing range (CBDR).

When the Skipper questioned the Midshipman (who was both Watch Captain and on the helm), “Who has the right of way?” The Midshipman responded in *all seriousness* “We’ll take right of way because he (the yacht) doesn’t know we are motor sailing.”

Immediate action. The Midshipman was relieved as Watch Captain. The Skipper explained the ethics involved and why the Rules of the Road must be followed at all times. The Skipper debriefed the on watch crew how important this kind of decision is, and why even joking about it is wrong.

Evaluation.

There is an implicit expectation that a Midshipman attending the Naval Academy is of the highest moral standards. Appointing someone to a leadership position who breaks the rules sends a poor message to other MIDN.

Avoiding collision requires that each party conform to the Rules of the Road as stated. If one party operates outside the rules, and the second fails to recognize the situation, the risk of collision may be significantly increased.

Conclusion.

During the final individual debriefs, the Skipper informed the Midshipman that he would not be recommended for Skipper or XO. The Midshipman had the seamanship knowledge to be an OSTs Skipper. However, his attitude, maturity, and sense of ethics were not consistent with that responsibility, or the basic tenants of the Naval Academy of developing MIDN morally, mentally and physically. This particular Midshipman was not ready for a leadership position.

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5.3.11 OWNERSHIP OF DIRECTIVES AND COMMUNICATIONS (Managing Difficult Situations)

Introduction.

This discussion focuses on ownership and communications as part of addressing and solving or preventing problems. It is not based on an operational accident, rather it is drawn from critiques of MIDN in one OSTs squadron that experienced very heavy weather, a difficult and uncomfortable situation for the crews of all five boats.

The outcome of this common experience appears to have been very positive for crews of three boats and decidedly negative for the crews of the two other boats. Leaders should reflect on the reason(s) for such different outcomes from a similar experience.

Narrative.

The outbound track to Black Rock, CT took the squadron south in the Chesapeake Bay, intending to round Cape Charles and then proceed offshore to Long Island Sound. Heavy weather was encountered soon after departing USNA, causing sail damage (torn mainsails) in two boats, and seasickness throughout the squadron. These boats diverted to contingency ports in the Bay to replace the sails – one to St. Marys City, MD and the other to Cape Charles, VA. Two other boats in the squadron had water contamination in their fuel tanks that required draining the RACOR fuel filter every two hours whenever the engine was running – a difficult and trying task in rough seas.

The squadron re-convened in Cape Charles, VA for repairs, crew rest, and to let the storm pass. A deep low pressure system developed off the mouth of the Chesapeake Bay and gale conditions were predicted offshore for the next several days. After consultation between the OTC and OSTs Program staff, a decision was made to route all boats of the squadron northward from Cape Charles in the relatively sheltered waters of the Chesapeake and Delaware Bays before heading offshore.

A brief stop was made in Annapolis in order to change out the two boats that were having fuel problems. After swapping boats, the squadron continued north and then through the C&D Canal and Delaware Bay to regain the offshore track to Long Island Sound and Black Rock.

The rerouting northbound in the Bay significantly delayed the ETA in Black Rock. The visit was shortened rather than cancel the offshore portion of the Block. The result was a port call of one day. This was disappointing to the crew after the early difficult and uncomfortable underway days.

Upon returning from Black Rock to Santee Basin, MIDN in all five boats of the squadron completed the end-of-block survey. One question was considered to be the best indicator of an overall positive (or negative) experience: “Would you recommend OSTs to other MIDN? Why or why not?”

In three boats, the answer was overwhelmingly “yes;” 100%, 100%, and 90% of the MIDN on board. There were a number of positive comments (ex: “Yes, because you learn so much (a 2/C).” “Forces you to figure out how to solve problems creatively (a 2/C).” “OSTs gave me competence, confidence.” “Leadership experience was great, loved the foul weather experience.” “Highly enjoyable.”

In the two other boats, at least half of each crew indicated “no.” Comments from these two boats were sometimes strongly negative (ex: “No, the people in charge are not competent when it comes to making important decisions about trip planning and management.” “Extremely unorganized.” “No, it was run poorly.” “Worst and most pointless training I have ever done (a 1/C).” “The fact that we had to go to Black Rock two days late is outrageous.”)

Assessment.

The approach to any problem influences the outcome and influences the overall experience of everyone involved. OSTs seeks to provide a practical leadership experience, and personal learning that supports the mission of training leaders for the Naval Service. Achieving successful outcomes often involves

timely and effective communications. It also involves taking ownership of directives or orders, and communicating them to your crew from your perspective, even if they are unpopular. As stated in Appendix A, giving orders to subordinates and attaching the originator's name to them does not support the chain of command and has long term adverse effects on attitude, performance and unit integrity. This is one possible explanation for the poor reviews from Midshipman on this block.

Another possible explanation is conflict within the CO/XO team, and how that affects the crew, which could be a good reason why a particular crew did not enjoy their experience. A third reason could be the attitude of a senior Midshipman on board who didn't like what was happening and his or her peer influence had an effect on the crew.

One certainty of leadership is dealing with problems: anticipating and pre-empting them; recognizing, analyzing and correcting them; and otherwise mitigating adverse impacts on mission, performance, and crews.

As a leader facing a problem or a challenging situation there are several questions you can ask to help solve the problem:

- What are the outcomes do you want to achieve?
- What actions can you take to achieve the desired outcomes?
- What are likely reasons for the different outcomes described here?

Suggested points to consider:

- Is communication with the crew part of solving problems? Why?
- How does the Skipper / XO team communicate with the crew? And is a common message appropriate / necessary?
- In the face of uncertainty, it's OK to admit "I don't know." But then what do you do?
- How do you keep your "powder dry" while keep the crew informed (retain your credibility when a decision may go counter to your own opinions)?
- Is there a Midshipman in the crew who is a complainer or otherwise has an adverse influence on others? What actions can you take? Can you work with your Watch Captains to have them intervene? What actions should you take?
- Focus energy on understanding the problem and alternatives for resolution.
- Are the Skipper and XO a good team or is there conflict in their views or approaches?
- Solutions sometimes involve making changes – in the way things are done; or in this case, a change in the voyage plan and the schedule. Why is making change / implementing change difficult?
- Can you mitigate adverse reaction to change? How?

Conclusions.

Leaders should communicate to their subordinates both the good and the bad in the decision-making process. Those crews whose Skippers were more involved in the decision-making process, or at least understood the basis for a decision from higher authority, may have had a more positive cruise experience.

Communicating why a particular decision was made helps MIDN to understand the process; whether decided locally by the Skipper or OTC, or with/by headquarters. It will also tend to give the crew some ownership in the process even though the final decision may come from outside their own boat.

When the crew is not kept informed, or when leader(s) do not take ownership, each individual will come to his / her own conclusion - which typically will not be positive. Communicating facts, what is known, and comparisons from experience promotes understanding. It is important to remember we are training MIDN to be our future leaders in both the good and challenging situations.

Ownership.

When faced with difficulty at sea, one Skipper summed up an excellent approach as “taking ownership” of the situation.

Review Appendix A of this Experiential Leadership Guide, Principles of Leadership, Section 1.8 Ownership of Orders / Directives. The situation here forms a parallel to the “damn XO” syndrome. Section 1.8 points out hazards for a leader in avoiding, deflecting, or compromising ownership of difficult situations.

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5.3.12 HEAD AND HOLDING TANK BLOCKAGE (Trouble Shooting and Solving Material Problems)

Summary.

The head and holding tank system in *INVINCIBLE* became blocked and inoperable while off-shore. Troubleshooting and repairs were completed by the crew using on-board tools and materials. The head system was returned to full service. No further assistance was required upon return to Santee Basin.

Narrative.

During Phase I of this MIDN training block, daily operations in local waters, discussion on the waterfront indicted the head and holding tank system of the MK II N44's may be prone to blockage. The MK II's were new and just coming into service. There were reports of difficulty in flushing the system.

The offshore passage for this block was a circumnavigation of the DELMARVA peninsula: south in the Chesapeake Bay, around Cape Charles, offshore along the VA/DE coast, up the Delaware Bay, through the Chesapeake and Delaware (C&D) Canal, and return to Annapolis.

During the second day while sailing northbound off the VA/DE coast, the system became blocked. The head was very hard to pump and there was significant resistance while moving the pump handle back and forth. Use of the head was suspended and alternate steps were considered and agreed upon by all hands for handling head requirements ("the old oaken bucket").

Plans were developed for troubleshooting the system. The MIDN XO took the lead and a second mechanically minded, hands-on-type MIDN (the designated First Lt) assisted. The approach, as summarized here by the XO, reflects a good systematic approach to a problem.

When we noticed a problem, we stopped to assess the situation. The head was too hard to pump, so we stopped to think why.

We traced the system in the boat and drew a schematic diagram. Then we assessed the symptoms (water not flowing freely through the system) and considered possible points of blockage.

We checked obvious things first, valves lined up correctly and nothing out of position. All checks were satisfactory. We concluded that we would have to open the system to locate/correct the reason for the blockage.

We started from the head (first in the flow path) by disconnecting the outlet hose from the head. Water flowed freely from the head itself when the pump was cycled, indicating the head and associated pump were not the problem. We then probed the hose from the head to the system Y valve (next fixture in the flow path) with an improvised plumber's snake. Resistance was encountered and by measuring the length of the plumbers snake from the head to the point of resistance, it appeared the blockage was at the Y valve (sends flow overboard or to the holding tank).

The hose between the head and the Y valve was removed from the inlet fitting of the Y valve, the obstruction was found, removed, and the system was reassembled. Finally, the system was tested satisfactorily by flushing water both to the holding tank and from the tank overboard.

Assessment.

Troubleshooting and repair, all within the confines of the head compartment and with the Y valve itself located inside the locker beneath the sink, were examples of grit, determination, and perseverance. It is a nasty proposition to open and work on the sanitary system under any conditions. Here, the boat was off-shore and rolling/bouncing in 4-5 ft seas and 15 knots of wind.

The team persevered and succeeded! Including final cleanup, the head and holding tank were returned to service about 4 hours after first recognizing the problem. The “oaken bucket” was never used – and the crew breathed a huge sigh of relief.

The plumbers “snake” was a section cut from the garden hose normally used to fill potable water tanks from shore. Improvise with what is available on board.

Later discussions with maintenance personnel ashore after returning to Santee Basin indicate the passages though the Y valve of the N44 MK II are “surprising small” in comparison to the apparent size of the valve itself. This is probably the choke point/limiting point for flow through the system.

Conclusions.

The blockage was a piece of “baby wipe.” Baby wipes are a useful alternative when showers or bathing are limited but they cannot be discarded through the head. The experience here underscores the standards for use of all marine heads – only human waste into the system, use only marine (dissolving) toilet paper (single ply), and generous flushing after each use.

The materials within supermarket toilet paper, intended to make it soft and user friendly, create a soggy mass when exposed to water – a sure formula for blockage when pumping from the head and through the system. Only use designated marine toilet paper in the marine head. Training of crew members in use of the head and correct toilet paper are mandatory.

The troubleshooting/evaluation process described above by the XO is a correct approach and reflects sound, systematic thinking. The crew tackled the problem and made a complete fix. It is an excellent example of resourcefulness, systematic trouble shooting, and making do with what is available on board. How a leader handles a pressure situation, with performance demands, can help lead them to reflection-in-action (see Appendix A). This was certainly a situation to reflect on a job well done.

APPENDIX A

PRINCIPLES OF LEADERSHIP

Intent. Summarize selected principles of leadership taught in the plebe academic curriculum to establish common ground and terminology for Skippers/XOs and MIDN

Discussion. These selected principles of leadership are taught in classroom sessions conducted as part of the OSTs Winter training. They are summarized here as a ready reference and refresher.

1.1 REFLECTION

OSTS naturally embodies leadership opportunity, but the challenge is effectively exploiting a Midshipman Winter train to achieve leader development.

Reflection may be considered to be careful and deep consideration of personal experience and observations (and additionally - values, goals, priorities). Reflection leads to better understanding of ourselves and others. Recurring/routine reflection provides desirable feedback leading to improved performance and results.

David Kolb considers reflection to be one of four key factors in a continuous circle that makes up the experiential learning process: experience, reflection, conceptualization (formulating), experimentation (testing), and back to experience.⁵

Reflection is recognized as a powerful tool and is taught as part of the Naval Academy curriculum. Discussions with MIDN indicate they consider reflection to be an important contributor to their own professional development. Attempts at practical implementation of reflection vary widely in methodology and effectiveness.

While reflection may realize near term improvements in learning and performance during OSTs, the real goal is to demonstrate effective reflection such that the OSTs example leads young officers to employ personal reflection as a means of continuing professional self-development.

One model for reflection used in the Israeli Defense Forces is After Event Reviews (AER'), a learning process that analyzes (learner behaviors) and the contribution (of those behaviors) to performance outcomes.⁶ In a similar approach, one researcher described experimental evidence on reflection as an enabler to learning from experience. This involved one hour reflection sessions using structured questions and guidelines, termed, "coached reflection."⁷ While rigorous and effective, these methodologies are not realistic for OSTs.

An approach that fits OSTs would be one that can be integrated into existing practices and the underway/at sea routine within shorter, emergent periods of time. Kent Seibert advances reflection-in-action,⁸ or unstructured reflection by individuals while engaged in what he calls "developmental" experiences. It may occur during moments of self-inquiry and assessment (why?) and within conversations with other people. It may even occur while doing other things (examples ashore: walking, driving, even taking a shower). This mode of reflection occurs "in the midst" of a developmental

⁵ David A. Kolb "Experiential Learning: Experience as the Source of Learning and Development (Prentice Hall 1983)

⁶ Shumel Ellis and Inbar David (Tel Aviv University) "After event reviews, drawing lessons from successful and failed experience" in Journal of Applied Psychology 2005.

⁷ Marilyn Daudelin in Organizational Dynamics.

⁸ Kent W. Seibert (Wheaton College (Illinois)) "Reflection-in-Action: Tools for Cultivating On-the-Job Learning Conditions" in Organizational Dynamics 1999.

experience. The learner experiences new, unfamiliar, or unexpected situations leading to real-time thinking to make meaning of the new experience.

The hands-on leadership responsibility intended in OSTS creates these kinds of developmental experiences, providing a rich environment for the application of knowledge from the academic curriculum. This meaning-making process is called reflection-in-action, and is an important phase of experiential leadership development. This kind of reflection occurs within the learner during the course of an experience, but is more likely when environmental conditions are favorable for reflection.

The character of an individual's work environment is very important to stimulating reflection-in-action, particularly an element of pressure. Seibert's studies led to the following table of conclusions.⁹ Parallels within OSTS have been added as the third column.

Conditions for Reflection	Siebert Definition Within the Work Environment	Parallels in OSTS
1. Autonomy	Freedom and discretion to structure one's environment	Delegation of authority, exercising responsibility
2. Feedback	Information on results of one's actions Information is raw material for reflection	Critiques/assessments by Skipper/XO, and one-on-one feedback
3. Interaction with people		
a. Access	Encounters with knowledgeable people	Skipper/XO
b. Connection	A supportive interpersonal relationship	Potential exists in small crews
c. Stimulation	People who provide new ideas and perspectives	Peers
4. Pressure		
a. Promotive	Large amounts of new information/ time limitations	Training requirements/schedule/ risk/ambiguity
b. Directive	Performance demands, visibility and importance	Crew interdependency and teamwork
5. Momentary Solitude	Periodic, brief occasions at or away from work to process new information alone	A quiet watch or off watch.

⁹ Kent W. Seibert (Wheaton College (Illinois)) "Reflection-in-Action: Tools for Cultivating On-the-Job Learning Conditions" in *Organizational Dynamics* 1999.

Seibert considers that all five conditions for reflection are not required, but the probability of meaningful results is stronger if a majority is present.

A second mode of reflection theorized by Seibert is “proactive reflection”.¹⁰ This mode of reflection entails a brief distancing from the developmental experience for the purpose of pondering its meaning, typically facilitated by a more experienced observer.

Seibert also cites an agricultural metaphor attributed to Douglas McGregor in his book “The Human Side of Enterprise.” In gardening/farming, it is impossible to “make” something grow. But proper conditions for growth (sunlight, water, weeding) are essential. Leaders will learn and grow with proper conditions for growth within their (work) environment.¹⁰ Conditions for growth are contained in OSTs; the opportunity lies in cultivating the crop, enhancing conditions for growth.

1.2 SOCIAL INFLUENCE

A change in behavior (observable actions) can be caused by real or imagined pressure from others (social influence). This contrasts with persuasion which focuses on changes in attitudes or beliefs. Allowing social influence to affect one's actions can be a hazard for developing independent critical thinking.

There are three major types of social influence: conformity; behavior change to match response or actions of others (e.g. Asch's line experiment), compliance; behavior change based on a direct request, and obedience is behavior change based on a directive from authority figure (e.g. military orders or Milgram shock experiment).

Social influence happens based on three psychological goals of an individual: the desire to choose correctly, gain approval, and/or manage self-image.

A decision to “choose correctly” can be based on the influence or presumed expertise of authority figures, the need for social validation (based on group influence, an interpersonal (rather than objective) way to choose), uncertainty over how to act, often in situations with difficulty/ambiguity, or the desire to choose based on group consensus or to match individuals who are similar to them. It can also be a shortcut or “lazy thinking” to go along with the group rather than investing in any hard thinking.

“Captainitis” is a phenomenon seen in military service and in civil aviation. Crewmembers defer to the captain, even in cases where the captain was wrong (Air Florida crash into the Potomac, P-3 destroyed during landing in Afghanistan) because of their position of authority. This influence is particularly strong when the authority figure is seen as “an expert.”

Decisions may also be made based on likelihood of gaining acceptance/approval by the group, rather than choosing the action that is correct. People may make decisions; to avoid rejection from a group (through submission to the group norm) or because someone gave them or conceded something (reciprocity). This behavior is less likely if an individual has personal confidence or lacks strong identity with the group.

1.3 GROUP DYNAMICS

People form groups to either accomplish tasks or goals (primary), or to meet social needs including security / identity /acceptance (secondary but important to individual).

¹⁰ Ibid.

There are four stages of group development: forming (determine behaviors and expectations for members of group), storming (conflict and disagreement), norming (standards and roles develop, cohesiveness builds), performing (task performance resulting from flexible relationships).

Factors affecting performance of group:

Presence of others: Can lead to either improved performance (social facilitation) or decreased performance (social inhibition), depending on difficulty of tasks.

Group size: Larger groups may allow an individual to engage in social loafing (some members contribute less), more rules and set procedures (takes longer to reach decisions), and job satisfaction may decrease due to less personal attention and fewer responsibilities.

Composition: Heterogeneous (increased range of ideas), or homogeneous (limited perspective).

Norms: Provide a frame of reference, and appropriate and inappropriate behavior.

Roles: May lead to ambiguity or conflict: uncertainty or different understanding of expectations.

Cohesiveness: promoted by similar attitudes and goals, size of group (smaller normally increases cohesiveness), system of recognition and rewards, challenges or threats to group.

Leader's tasks: Assess skills of team members (avoid social loafing or inhibitions), communicate expectations (reinforce norms and avoid ambiguity), provide training and resources (minimize conflict), recognize good performance and desired behaviors (rewards).

1.4 CRITICAL THINKING

Critical thinking is an approach or discipline for thought, leading to improved communications, results and decisions. This pattern of thinking seeks to identify issues, gather relative information, establish well-reasoned conclusions and promote open thought. May be contrasted with egocentric thinking which may make sense, but may not be correct.

Carl von Clausewitz summarizes it as, "*the ability to keep one's head at times of exceptional stress and violent emotion.*"

Critical thinking employs two sets of principles: "Universal Intellectual Standards" (rigor of thinking) and "Elements of Thought" (scope of thinking).

Universal Intellectual Standards: Clarity - elaboration not needed; Accuracy - true, factual; Precision - statement is specific; Relevance - addresses topic at hand; Depth - considers complexity of the question; Breadth - considers multiple perspectives; Logic - makes sense; Significance - places issue in context; Fairness - questioning and open minded.

Elements of Thought: Purpose - goal or objective; Question - issue defined; Information - facts, data, evidence, experience; Concepts - ideas, theories, laws, principles, values, hypotheses; Inference - interpretations or conclusions; Assumptions - beliefs taken for granted (may be in the subconscious); Point of View - perspective, what is seen and how it is seen.

1.5 VALUES

Qualities and standards that individuals believe in are important. They influence actions, judgment, and choices. Decisions are usually based on the personal values of the individual. Values are fundamental to human behavior.

Value sources: People, family, school, religion, politics, military, media, experience.

Stages of development: Acceptance - influence of others (early childhood). Choice - based on alternatives or consequences (ages 8 - 16). Commitment - taking a stand, acting in accordance with values (ages 16-23+).

Two subsets: Our own values (personal) and collective values (groups of which we are a part - family, work and social groups, geographic regions, national).

Managing value conflicts and influencing values of others.

Internal conflict – personal values opposed to one another. Difficult for self because two perceived rights cannot be equally satisfied.

External (interpersonal) conflict – personal values vs. those of an outside set. Because values are subjective, external differences will likely result in stand-off, neither party likely to relinquish own values. Reasoning or argument is not constructive. Resolution will probably come from another path.

1.6 GOALS

Provide focus, promote strategy and action, regulate effort and resources, enhance commitment / persistence.

Goals should be SMART.

Specific – precise, not general statements.

Measurable – should have a metric by which to judge achievement.

Attainable – realistic and achievable, while also challenging.

Results oriented – desired outcome; words such as complete, acquire, produce, increase, decrease.

Time bounded – a deadline for completion.

Insights: Self set goals, assigned goals, and group determined goals are equally effective. Feedback promotes achievement. Challenging goals lead to higher performance. Goals should support rather than threaten.

Leader's tasks: Explain, coach, provide resources, and relate personal goals to group goals. Promote commitment to specific goal achievement.

1.7 INTERPERSONAL COMMUNICATIONS

Listening skills.

Six steps of the listening process:

Hearing: the physiological process, from sound waves to interpretation by the brain.

Focus: manage the distractions – environmental, physiological (below), and psychological (below).

Comprehend: attach meaning. Includes factors other than actual words (voice tone, inflection, and body language).

Analyze/evaluate: beyond face value and assess the speaker's attitudes and emotions.

Feedback: good feedback is immediate, honest, supportive. Eye contact, facial expression, head movement, verbal response, questions, paraphrasing.

Remember: repetition (use of names), mnemonics (memory aid), and notes.

Barriers to good listening: environmental (noise, physical discomfort), physiological (we think 5X faster than speech, physical disorder/sickness, mispronunciation), psychological (preconceptions, assumptions, selective listening, attitude, reaction to certain words (connotation of certain word vice literal meaning)).

Good listening: Listen quietly and minimize distractions. Paying attention requires energy; use pauses to reflect, identify main points, focus on content not style, paraphrase/question, don't react to emotional words, and provide feedback.

1.8 OWNERSHIP OF ORDERS / DIRECTIVES

Basic principle – orders/directives should be stated as if they are your own and not as originating from someone else (and particularly from someone senior).

There is a natural tendency, when faced with implementing directions that may encounter “push back” (objection or disagreement) from subordinates or peers, to phrase them as coming from someone else and thereby mitigate the situation for oneself. Responsibility for the directive is deflected to the originator rather than taking personal ownership. This is sometimes characterized as “lazy orders” or “Damn Exec” syndrome (i.e., eDamn XO says _____”). Giving orders to subordinates and attaching the originator's name to them does not support the chain of command and has long term adverse effects on attitude, performance and unit integrity.

It may be appropriate – in a one-on-one situation with your superior – to question or ask “why” when receiving a directive. But when confirmed or agreed upon, ownership is taken and the order is passed on and carried out as if it were your own.

Issues with the “Damn Exec” approach:

- Demonstrates lack of ownership and “buy-in” to organizational goals.

- Subordinates may see you as only a puppet or mouthpiece of higher authority, lacking personal authority and responsibility.

- Subordinates may question decisions you make/ orders you originate.

Personal ownership of orders/directives is a fundamental responsibility at each level in the chain of command. “Damning the Exec” may be subverting your leadership role through loss of respect and support of your crew.

APPENDIX B

EXERCISING LEADERSHIP

Intent. Summarize selected topics of leadership that are taught in the upper class academic curriculum to provide a common understanding for MIDN, Skippers and XOs regarding actions of leaders in the OSTs framework.

Discussion. Successful performance within OSTs depends on the integration of the knowledge and skills of individual crew members and coordinated execution of numerous tasks and evolutions. Effective teamwork is required for safety of operations and achievement of the assigned mission. This section builds on the Principles of Leadership (psychology and thinking) by addressing topics of implementation and practices.

1.1 LEADING TEAMS

Why this is important.

The OSTs mission is carried out by the crew of each sail training craft (STC). For our purposes, each crew is a team (see below). Leadership occurs at all levels and effective leadership is critical to performance and mission success.

Skippers and XO is carried out by the crew of the overall team, and MIDN are expected to perform leadership roles within the team through; watchstation responsibilities (ex: Watch Captain, Helm, and Nav Plotter), overseeing various STC evolutions, training shipmates (examples: operating systems and performing maintenance, ensuring full loadout for deployment, preparations for underway, food preparation and galley cleanup).

Organization of the team and executing the tasks of a team leader are fundamental to success.

Both groups and teams may be characterized by (1) Mutual interaction and (2) Reciprocal influence. But teams have greater specialization in four important ways.

Teams have a stronger sense of common identification among themselves.

Teams have common goals or tasks on which there is a high degree of consensus.

Teams have a high degree of task interdependence.

Members of teams have more differentiated tasks and specialized roles.

Team design – things the leader must consider (first) in organizing the team and (then) assessing performance.

Task structure: Nature of the tasks within the team, whether tasks are technical or adaptive (broader or more general), and alignment of tasks with mission.

Capabilities and limits of team: Size and makeup; knowledge, skills, and interdependence of members; personal dynamics between members.

Expectations and standards:

Are they imported from outside or set by the team?

Do they support the team objectives?

Do they support or challenge teamwork?

Key tasks for leaders.

Setting and enforcing high standards of performance. Arguably, this is the most important task. Leaders routinely set high standards; the hard part is enforcing, on-going identification and correction of poor performance.

Communicating a clear purpose or mission.

Planning and organizing tasks of the team.

Securing necessary resources.

Assessing performance, suitability, and skills of team members

Establishing high levels of feedback and interaction.

Minimizing interpersonal conflict.

1.2 DECISION MAKING

Why this is important.

Making decisions is a key and on-going activity of leaders.

How decisions are made, as well as the decisions themselves, can enhance or degrade unit performance.

Decision making is strongly influenced by the situation and members of the team.

Range of decision making.

Intuitive or time critical – quick minded decisions due to time constraints or a recognized situation; or choice based on clear alternatives.

Analytical - thinking carefully and broadly before deciding.

Drivers for decision making.

Time. Some situations may be true time critical, but most are not. Timeliness is always desirable, but immediate action may not be required.

Experience of decision maker which includes personal knowledge of the issue. This driver may be lacking in Midshipman and junior officers.

Quality of decision needed: impact or potential outcomes of the action intended.

Acceptance implies team members take ownership, follow through and implement, and are not just minimally complying. Is the decision “good” if it causes conflict and resistance, or requires close follow-up (resources) to achieve implementation?

In some cases, simply making a decision may be more important than what is decided. When differences are not significant, resolve uncertainty and move on. Ulysses S. Grant is reported to have said “If we find we are wrong, we can change.”

Methods of decision making.

Intuitive relies heavily on association with situations of past experience and recognizing a satisfactory course of action rather than “thinking through” to a best decision. This may lead to action that is “good enough.”

Analytical relies on gathering facts, data, input and recommendations to derive a best or an optimal decision.

One model for decision making: the OODA Loop (Observe - Orient –Decide –Act). Devised by COL John Boyd USAF during the late 1950s while at Fighter Weapons School, Nellis AFB, Nevada, the OODA Loop was initially a way to show fighter pilots how to quickly make decisions in air-to-air combat (dog-fights). It was based on a scenario of two adversaries seeking to vanquish the other. Taken on a broader scale it has gained wide recognition as a sound process for analytical decision making.

Observe the situation. Assimilate existing information as to situation, status, surroundings; gather additional information when necessary. Ambiguities will often exist and should be recognized; but delaying for 100% of all possible information is often unrealistic and potentially detrimental.

Orient to the situation. The most important part of the process. Includes estimates, assumptions, judgments in order to figure out and understand the situation. Be open minded, ensure experience or biases do not skew the picture.

Decide what to do. An immediate action or a longer term plan and action. Be sensitive to alternatives, overall objectives, time and, finally, perceptions that may evolve from the decision.

Act, implement the decision. Disseminate, supervise execution, monitor results by ensuring feedback. Now the cycle begins again by observation of the effects of the action.

In applying an analytical approach to a decision, recall the elements of Critical Thinking (Appendix A: Principles of Leadership).

There are a number of sources for additional information and insights on the OODA Loop. One readily available reference: Wikipedia.com.

1.3 MANAGING AND RESOLVING CONFLICT

Why this is important.

Conflict in teams is inevitable.

Successful resolution enhances team performance.

Unsuccessful resolution or no resolution degrades team performance.

The leader must use the energies of conflict in a positive manner (towards mission accomplishment) and prevent it from disrupting / eroding team effectiveness.

Conflict occurs when opposing parties have interests or goals that appear to be incompatible.

Causes of conflict.

Lack of communications between individuals (often the most significant reason).

Strong differences in values, beliefs, or goals.

Team members (collectively or individually) under stress.

Tasks or responsibilities are uncertain or appear incompatible.

Leader's actions appear inconsistent with goals or standards and expectations.

Conflict within a team is not necessarily bad. It may be considered as having “positive” potential or “negative” potential.

Positive normally centers on how to solve a problem or accomplish a task; resolution may lead to improved effort and results, impetus for change, stimulation of critical thinking, identification of underlying issues (and solve the real problem vice an apparent problem).

Negative typically centers on interpersonal relationships and can lead to decreased communications and cooperation, stress, negative feelings, poor decision making, and reduced productivity.

Potential strategies for conflict resolution.

Competitive: One party's position or outcome achieved over or at expense of another's can be termed win-lose or domination. Use when quick or decisive action is required, as in an emergency or for significant issues where unpopular actions are required (ex: discipline, cost cutting, enforcing unpopular rules).

Accommodation: Opposite of competitive, one gives in entirely to position of another. Best used after realizing one's position is wrong, to allow a better position to be heard, to show reasonableness, when harmony and stability are especially important, to allow subordinates to make a mistake and learn, and to build social credit for bigger issues.

Compromise: Somewhere between competitive and accommodation; both get something, both give up something. Utilize this tactic when the goal is important but not worth the risk of disruption of competitive resolution; if opponents with equal power are committed to mutually exclusive goals; as a temporary settlement of complex issues; or to achieve expedient solutions under time pressure.

Collaboration: A problem solving approach that seeks to integrate concerns of both parties, when both sides are too important to be compromised.

Avoidance: Indifference or failing to address concerns of both parties. Can be useful if an issue itself is not significant, there are more important issues to consider, to let people cool down and regain perspective, when gathering further information outweighs immediate action, when the current issue appears tangential to or symptomatic of other issues, or when others can solve the issue more effectively.

Role of leadership in conflict resolution.

Prepare for negotiation, do your homework: Consider both sides of the issue, concerns, attitudes, goals and strategies.

Separate people from the problem: Focus on facts and issues, do not allow own feelings to influence perception of each side's feelings, intentions or goals.

Focus on interests of each side, not the positions.

Insure good communications, emphasis on active listening.