DEPARTMENT OF THE NAVY
COMMANDER
NAVAL EDUCATION AND TRAINING COMMAND
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LETTER OF PROMULGATION FOR NAVEDTRA 142

1. The Naval Education and Training (NAVEDTRA) M-142 series of manuals has been extensively revised. This revision merges the Ready Relevant Learning process, the Naval Education and Training Command (NETC) End-to-End process, and the OPNAV acquisition process into one Navy Training Process (NTP). The NTP is more agile, relies on type commanders to push training requirements to NETC, and eliminates a multitude of outdated and often conflicting policy and guidance.

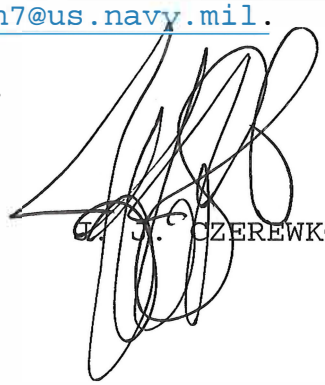
2. The NAVEDTRA 142 series of manuals define the NTP and provide fundamental direction for the development of curricula, the delivery of instruction, and the management and evaluation of training programs, within NETC.

3. This publication is a major change and should be read in its entirety.

4. This publication is available electronically at: https://netc.navy.mil/Resources/NETC-Directives/.

5. NETC N71 solicits any comments and recommendations to improve the NAVEDTRA 142 series of manuals through the following link: https://flankspeed.sharepoint-mil.us/sites/MYNAVYHR_NETC/N7/Lists/ChngRqstForm/AllItems.aspx or comments may be submitted to netc-n7@us.navy.mil.

6. Reviewed and approved.



R. J. CZEREWKO

NAVY INSTRUCTOR MANUAL

SECURITY CLASSIFICATION: UNCLASSIFIED

18 JUN 2025

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Record of Changes

Number and Description of Change:	Entered By:	Date:

Foreword

Naval Education and Training Series Manuals:

The Naval Education and Training (NAVEDTRA) M-142 series of manuals provide policy and guidance within the Naval Education and Training Command (NETC) for the development of curricula, delivery of instruction, and management and evaluation of training programs.

This manual supersedes the following documents:

- NAVEDTRA 134A Navy Instructor Manual
- NETCINST 1500.2H Master Training Specialist (MTS) Program
- NETCINST 1500.5E Instructor Qualification, Certification, and Sustainment Program

Scope:

The NAVEDTRA M-142.6 presents knowledge factors and background information on the theory and techniques of effective Navy classroom instruction. The manual is designed to follow the outline of the Navy's Formal Instructor Training Course (ITC) and is to be a supplementary text for that course. The manual may also be used as a general reference by those having responsibilities for conducting shipboard or on-the-job-training programs.

The guidelines set forth in this series of manuals are not intended to conflict with any higher-level authority policies or procedures. In instances where there appears to be a conflict or disagreement, please notify NETC N71. NETC N71 solicits any comments and recommendations to improve the NAVEDTRA M-142 series of manuals through the following link: https://flankspeed.sharepoint-mil.us/sites/MYNAVYHR_NETC/N7/Lists/ChngRqstForm/AllItems.aspx or comments may be submitted to netc-n7@us.navy.mil. This manual is intended for use by military, civil service, and contractor personnel engaged in the development and modification of Navy training materials.

NOTE: All links in this manual must be copied and pasted into a browser to access the document being referenced.

Contractual Use of this Manual:

Throughout the NAVEDTRA M-142 series, examples are provided to illustrate and clarify points being discussed. It is important to note in the case of an item identified as an "example," this item is not intended to be copied exactly in all situations, but rather provided to help clarify the information being discussed. The content for items shown as examples are representative and may be tailored by the user for specific situations.

Table 1: Guidance Terms

Term	Meaning
Must	**This action, behavior, or construct is required by the guidelines.**
Will	**This denotes a required action in the future.**
May	**This action, behavior, or construct is permitted; however, it is discretionary, not required.**
Can	**This refers to the inherent behavior of software and/or computer languages. Do not use to mean that an action, behavior, or construct is permissible or allowed by the guidelines.**
Must not	**This action, behavior, or construct is prohibited by the guidelines.**
Should	**This suggests that something is proper, reasonable, or the best thing to do.**

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Navy Training Process Appendices are available for download:

https://flankspeed.sharepoint-mil.us/sites/MYNAVYHR_NETC/N7/1426/Forms/AllItems.aspx

Phase VI Appendices

Acronym List

Acronym	Description
A/C	Air Conditioning
APL	Affective Proficiency Level
AQD	Additional Qualification Designation
ARB	Academic Review Board
ARCS	Attention, Relevance, Confidence, and Satisfaction
CBT	Computer-Based Training
CCA	Curriculum Control Authority
CCMM	Course Curriculum Model Manager
CeTARS	Corporate enterprise Training Activity Resource System
CLE	Collaborative Learning Environment
CMT	Common Military Training
CNRFC	Navy Reserve Force Command
CO	Commanding Officer
CP	Certification Plans
CS	Course Supervisor
CUIT	Core Unique Instructor Training
DoD	Department of Defense
DON	Department of the Navy
DOR	Drop On Request
DoT	Director of Training
EAP	Emergency Action Plan
ECR	Electronic Classroom
eNTRS	enterprise Navy Training Reservation System
EO	Enabling Objective
ESR	Electronic Service Record
FG	Facilitation Guide
HAZMAT	Hazardous Materials
HRT	High-Risk Training
IDP	Instructor Development Plan
IG	Instructor Guide
IMM	Instructional Media Material
ISIC	Immediate Superior in Command
IST	In-Service Training
ITC	Instructor Training Course

JST	Joint Services Transcript
KPL	Knowledge Proficiency Level
KSA	Knowledge, Skills, and Abilities/Attitudes
LC	Learning Center
LMS	Learning Management Systems
LO	Learning Objective
LS	Learning Site
LSO	Learning Standards Officer
MTS	Master Training Specialist
NAVEDTRA	Naval Education and Training Manual
NEC	Navy Enlisted Classification
NeL	Navy e-Learning
NETC	Naval Education and Training Command
NITC	Navy Instructor Training Course
NTP	Navy Training Process
OIC	Officer in Charge
OJT	On-the-Job Training
OPSEC	Operations Security
ORM	Operational Risk Management
PADDIE+M	Plan, Analyze, Design, Develop, Implement, Evaluate, and Maintain
PALS	Practical Applications of Learning Science
PFA	Physical Fitness Assessment
PPE	Personal Protective Equipment
PQS	Personnel Qualification Standards
PWS	Performance Work Statement
RRL	Ready Relevant Learning
SAPR	Sexual Assault Prevention and Response
SG	Student Guide
SME	Subject Matter Expert
SOH	Safety and Occupational Health
SPL	Skill Proficiency Level
SRB	Selective Re-enlistment Bonus
TA	Task Analysis
TDT	Team Dimensional Training
TO	Terminal Objective
TSC	Transaction Service Center
TTO	Training Time Out
VEGA	Voice, Eye Contact, Gestures, and Attitude
WIIFM	What’s In It For Me

CHAPTER 1
NAVY TRAINING

1.0. Introduction. The chief purpose of the United States Navy's training establishment is to provide operational forces with properly trained personnel who can maintain a high degree of fleet readiness. There are several offices that communicate, coordinate, and plan training. These offices are Chief of Naval Operations, United States Fleet Forces Command, United States Pacific Fleet, system commands, type commanders, United States Marine Corps Training and Education Command, NETC, and Navy Reserve Force Command (CNRFC).

About one-third of Navy Service Members are involved in some kind of training at any given time over the course of their careers. There are new requirements, as well as losses of trained personnel through promotions, transfers, retirement, or discharge, and these create a constant need for proper training. To stay ahead of an ever-changing population, the Navy uses a variety of instructional methods to facilitate Sailor learning. One of the purposes of this manual is to familiarize military, civil service, and contractor personnel engaged in the development and modification of Navy training materials with the details of the Navy's formal training development process and educational concepts upon which the training system is based.

1.1. Navy Training Initiatives

1.1.1. Warrior Toughness. Warrior Toughness is a comprehensive, evidence-backed initiative aimed at cultivating Sailors who are spiritually, mentally, and physically resilient. It's not just about enduring stress or adversity, but about thriving under pressure, maintaining focus on the mission, and emerging stronger from setbacks. This program is systematically integrated into all stages of Navy training, including boot camp, fleet training, and leadership development. Below are the core elements of Warrior Toughness:

a. **Performance Psychology**

(1) Helps Sailors perform under stress, regulate emotions, and maintain composure.

(2) Incorporates techniques like goal setting, visualization, self-talk, and arousal control.

(3) Leverages insights from sports psychology and battle-tested strategies.

b. **Mindfulness**

(1) Fosters present-moment awareness to enhance focus and decision-making.

(2) Supports stress management, emotional regulation, and sustained attention.

c. **Character Development**

(1) Reinforces moral and ethical values in alignment with the Navy's core principles (honor, courage, and commitment).

(2) Promotes integrity, responsibility, and resilience.

d. **Warrior Mindset (Inspired by Navy SEALs)**

(1) Trains Sailors to push through challenges, both physically and mentally, after setbacks.

(2) Focuses on grit, perseverance, and a mission-first attitude, regardless of obstacles.

Recognizing that traditional training primarily emphasized physical fitness, the Navy identified the need for mental and spiritual preparation as well. Warrior Toughness addresses this gap, ensuring Sailors are not only physically fit but also mentally prepared, resilient, and dependable in any circumstance. Ultimately, it equips Sailors to not only survive the challenges and stresses of naval service but to excel in overcoming them.

For more information on the Warrior Toughness curriculum and its implementation, refer to NETCINST 1700.2.

1.1.2. Sailor 2025 (S2025). S2025 is the Navy's program to improve and modernize personnel management and training systems to more effectively recruit, develop, manage, reward, and retain the force of tomorrow. The focus of S2025 is to empower Sailors, update policies, procedures, and operating systems, and provide the right training at the right time in the right way to ensure Sailors are equipped for their Fleet assignments. Recruiting, developing, and retaining the right number of Sailors with the right skills to staff force demands innovation built on a framework of three pillars; a modern personnel system, career readiness, and a career-learning continuum that is called Ready Relevant Learning (RRL) (Figure 1-1).

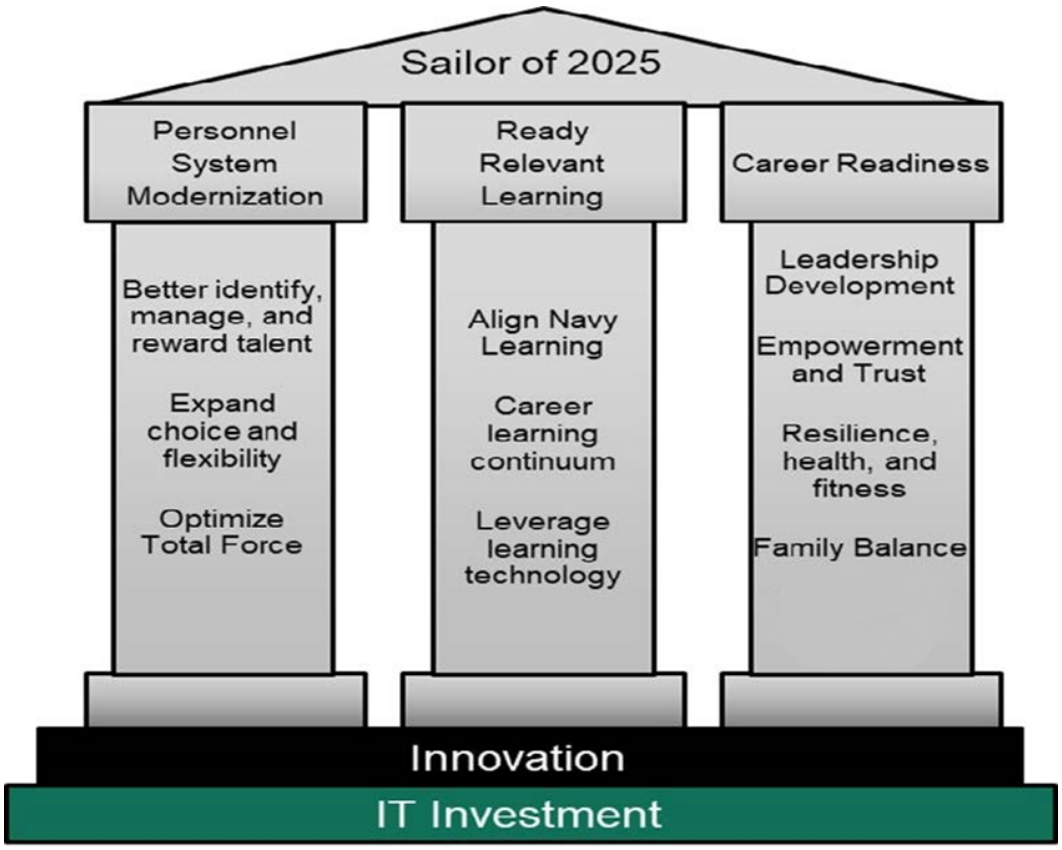

Figure 1-1: Sailor 2025 Pillars

1.2. Modernized Learning Environment. The modernized learning environment is essential to the Navy's training system. It includes a variety of training methods, such as instructor-led sessions, computer-based training (CBT), and blended instruction. This environment enhances Fleet readiness by leveraging current technologies and best practices to improve both institutional and individual learning, ultimately boosting performance across the Navy's total force. Additionally, it features automated systems that utilize information technology to streamline training processes, automate learning management, and provide electronic training to all personnel—whether in the classroom, deployed, or at home.

1.2.1. Modernized Learning Environment Electronic Applications. The following are key technical components of the modernized learning environment:

a. Learning Management Systems (LMS):

(1) Contains the master catalog for accessing training content.

(2) Allows management of learning events.

(3) Provides access to thousands of self-paced training courseware offerings.

b. Learning Content Management Systems:

(1) Provides for creation, storage, reuse, and management of learning content.

(2) Provides a template-driven environment for fast, efficient, and consistent authoring of knowledge-based content.

(3) Can receive content developed in an authorized instructional development tools.

c. Corporate enterprise Training Activity Resource System (CeTARS):

(1) Is the authoritative database for all formal Navy training.

(2) Is used to input, retrieve, and analyze training data.

(3) Performs statistical calculations regarding personnel, training needs, equipment and facilities.

(4) Is used to make and support training decisions.

d. Catalog of Navy Training Courses Volume II:

(1) Receives data from CeTARS.

(2) Is a catalog of web pages about Navy training courses.

(3) Contains detailed information such as:

(a) Type of course.

(b) Purpose/scope of the course.

(c) Course prerequisites.

(d) Class schedules.

(e) Class quotas.

(f) Navy Enlisted Classification (NEC)/Skill Awards.

e. enterprise Navy Training Reservation System (eNTRS). eNTRS is a system used by the Navy to manage and request seats for formal training courses. eNTRS allows Fleet activities to view available courses, request reservations, and manage training information.

f. The Fleet Training Management Planning System:

(1) Enables all levels in the chain of command access to data from a vast array of training, manpower, and personnel databases.

(2) Enables access to data residing in the Navy Training Management Planning System Data Warehouse/Operational Data Store including data from more than 40 authoritative databases.

(3) For approved personnel, it provides the unique capability for users to enter course completion dates on certain courses.

(4) Documents completion of certain command delivered training events such as leadership training, common military training (CMT), sexual assault prevention and response (SAPR), etc.

1.3. The Navy Training Process. The Navy Training Process (NTP) employs the instructional systems design model known as Plan, Analyze, Design, Develop, Implement, Evaluate, and Maintain (PADDIE+M). Figure 1-2 provides a high-level overview of the NTP using this model.

The NTP is structured into five phases, each comprising specific steps. A brief description of each phase will follow below.

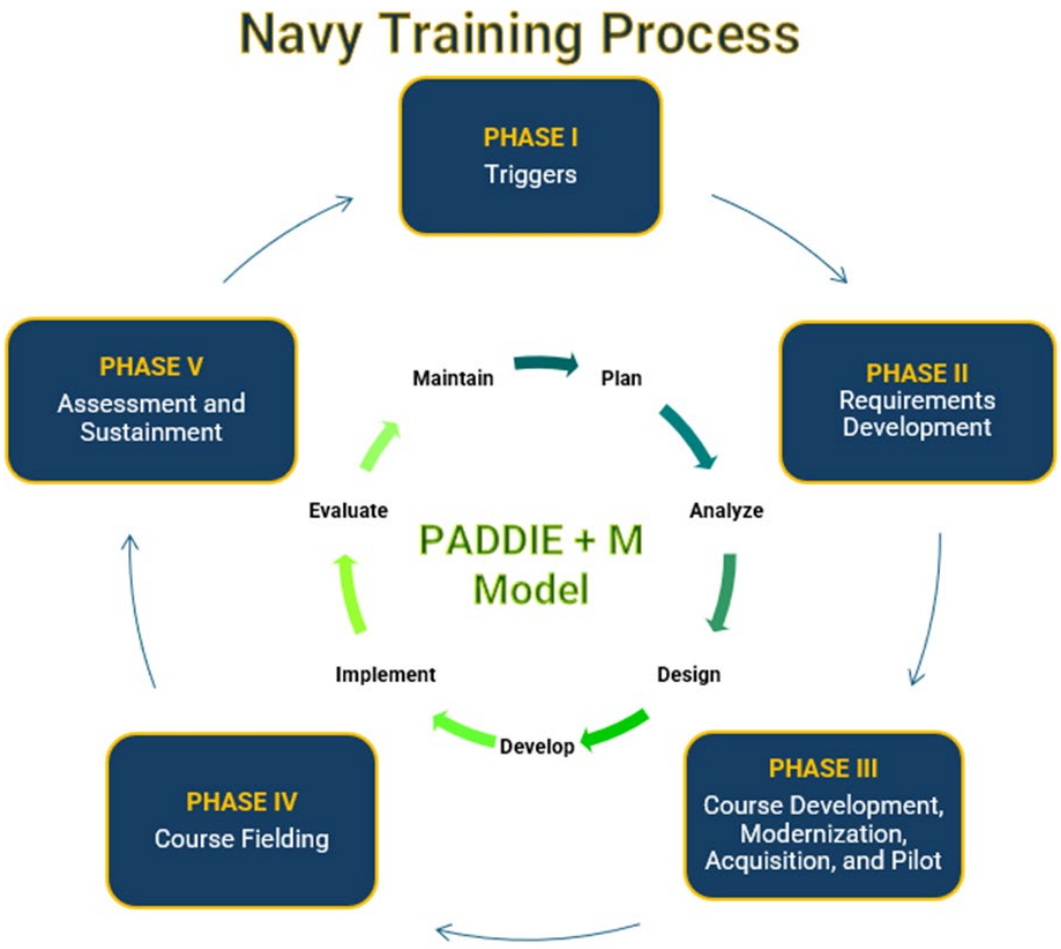

Figure 1-2: Navy Training Process Using the "PADDIE+M" Model

1.3.1. Phase I Trigger. NTP Phase I Triggers is the Plan 'P' in PADDIE+M that includes the Triggers Decision Alignment Meeting and Needs Assessment. Triggers are events that initiate the assessment of requirements to develop new training or to revise or modify existing training. Whether due to course modernization, a system change, new equipment installation, new personnel requirement, safety/performance trend, or other input, the triggering event(s) may change the training content or instructional methodology. For more detailed information on the NTP Phase I, see the NAVEDTRA M-142.1.

1.3.2. Phase II Requirements Development. NTP Phase II Requirements Development: Analyze/Design Steps 3 through 5 entry point(s) will depend on the trigger. The depth could be as simple as a modification to existing training, or as complex as a training requirement to support new training. It is important to note that depending on the project scope, some steps may not be required to provide a valid training requirement.

Phase II Requirements are divided into Steps 3 through 5, along with subsequent sections. For more detailed information on Phase II of the NTP, refer to NAVEDTRA M-142.2.

1.3.3. Phase III Development, Modernization, Acquisition, and Pilot. NTP Phase III outlines the procedures of the NTP Phase III Course Development, Modernization, Acquisition and Pilot covering all steps required to create and deliver training. For more detailed information on Phase III of the NTP, see NAVEDTRA M-142.3.

1.3.4. Phase IV Course Fielding. In this stage of the NTP, the course, testing program, and student management programs are fully implemented. For more detailed information on Phase IV of the NTP, see NAVEDTRA M-142.4 Volumes I and II.

1.3.5. Phase V Assessment and Sustainment. Phase V of the NTP focuses on Assessment and Sustainment. It identifies the necessary steps for collecting feedback and assessment data to support the development of quality training evaluations and the effective management of ongoing training. For more detailed information on Phase V of the NTP, see NAVEDTRA M-142.5.

CHAPTER 2
THE NAVY INSTRUCTOR

2.0. Introduction. The Navy instructor is considered the most important link in the training process, with the ability to significantly impact the overall training experience. Because of this, a Navy instructor must possess a variety of skills to be effective. Instructors must demonstrate professionalism in their subject matter discussions, coupled with expert knowledge of the subject and instructional techniques. Additionally, a Navy instructor must possess a positive personality, effective leadership abilities, and a professional attitude. Without these essential qualities, instructors risk losing respect and credibility in their classrooms, which can negatively affect their ability to motivate students to engage with the material.

A Navy instructor must be able to communicate their knowledge, skills, and experiences to a various group of students from different backgrounds who possess varying learning styles (which we will discuss later). Instructors are responsible for facilitating the learning process, making effective communication an essential skill. Communication involves more than just speaking; it encompasses the entire presence of the instructor. How an instructor presents themselves has a significant impact on students' interest levels and can influence their desire to learn.

Instructors also have responsibilities to their students. A Navy instructor holds the unique ability to influence their students and must be aware of their responsibilities in preventing hazing, fraternization, sexual harassment, and sexual assault incidents. Instructors are also tasked with creating a learning environment that caters to a various student base. Additionally, they must ensure a physically and psychologically safe learning environment for all students.

Finally, Navy instructors have a responsibility to continually improve their instructional skills. Development as an instructor does not conclude with qualification and certification. Instructors should always be open to learning and accepting feedback to enhance their teaching methods. Continuous self-improvement is key, and instructors should regularly assess how they can refine their skills to benefit their students. Observing more experienced instructors and asking questions can provide valuable insights and opportunities for growth.

2.1. Professionalism. The instructor sets the tone for communication in the classroom. Professionalism is a critical characteristic for an effective Navy instructor. Not only does the instructor's skills and behavior significantly impact the students'

learning experience, but also their actions in the classroom set an example for students, influencing the students' attitudes and approach to the learning process.

2.1.1. Characteristics of a Professional Instructor. To demonstrate professionalism, an instructor must possess several key traits:

a. **Knowledge of the Subject.** An instructor must have a deep understanding of the subject matter they are teaching. An assignment as an instructor typically means an individual has been identified as a subject matter expert (SME) in the field. The combination of formal training in rating, real-world experience, and on-the-job training (OJT) provides invaluable knowledge for the role as an instructor. Individuals who are assigned to instruct also bring an extensive experience from a rating which allows them to evaluate training materials, manuals, and references, presenting the content in a practical and understandable way for students. However, it is important to note that knowing the subject well enough to perform the job is quite different from teaching others how to do it. Effectively conveying knowledge to students presents both challenges and rewards for the instructor. Continuous practice, studying, research, and keeping up with new developments are essential to maintaining the breadth of knowledge required. Additionally, observing more experienced instructors can provide valuable opportunities for both subject matter and instructional technique growth.

b. **Knowledge of Instructional Techniques.** Instructors must be familiar with various instructional strategies and techniques. Formal instructor training such as the Navy Instructor Training Course (NITC), provides a wealth of information on instructional methods. An instructor must not only understand the principles, methods, and techniques of instruction but also be capable of applying them effectively in the classroom. While experience gained through years of interacting with students, other instructors, and training administrators will contribute to growth, an instructor's ability to teach effectively will only improve through deliberate effort and a commitment to continual learning.

c. **Positive Personality.** Personality can be defined as the sum of all traits and behaviors that influence how others respond to an individual, either positively or negatively. A positive personality is not an inherent trait; it can be developed with conscious effort. Instructors must focus on improving specific personal behaviors to foster a positive learning environment. Traits such as enthusiasm and sincerity contribute to effective instruction, while traits like superiority or indifference must be avoided. Establishing a good

rapport with students is important, and this can be achieved by connecting with students through shared experiences, such as personal accounts and sea stories. By empathizing with students and explaining what they can expect from training, instructors can create an engaging and supportive environment. Enthusiasm for the lesson content is essential for motivating students, as it raises energy levels in the classroom and fuels student interest and engagement.

d. **Leadership Ability.** An effective leader manages the learners and the environment of learning. An effective instructor must possess leadership skills to enable students to develop positive habits, attitudes, and character traits while delivering the necessary course content that also enables skill acquisition. The instructor is responsible for managing every aspect of the classroom, including all instructional operations and procedures. They must use the allotted time for lesson topics efficiently and report any equipment that requires repair or supplies needed for effective instruction. Additionally, the instructor is responsible for ensuring that the classroom or laboratory is prepared for the next class, including setting up equipment and training materials.

e. **Professional Attitude.** Instructors build a culture of respect in the classroom by demonstrating a professional attitude. Effective instructors must earn and maintain the respect of students by demonstrating a professional attitude towards everyone. They should show genuine interest in all students, regardless of background, academic performance, or intelligence level. An inclusive and equitable approach is necessary to create a positive learning environment. Instructors must be aware that their behavior, both inside and outside the classroom, will influence their students. A successful instructor must also be empathetic towards students' personal challenges and address these issues fairly, knowing when to refer a student for additional support or counseling.

   Instructors with a professional attitude continually work to expand their knowledge and improve their instructional skills. No instructor behavior goes unnoticed by students. Instructors are expected to embody the Navy’s Core Values of honor, courage, and commitment in their conduct, appearance, and attitude, as everything they do will be scrutinized. Everything said and done in the classroom, including nonverbal cues, will reflect the instructor's attitude towards the students, the material, and the training program. Instructors must ensure their remarks are always appropriate and professional, refraining

from negative comments about the Navy, training materials, the classroom environment, or personal issues. Students are likely to mirror their instructor's attitude and perspective, making it crucial to model professionalism.

2.2. Define Communication. Communication can be defined as the exchange of thoughts, opinions, and information through speaking, writing, nonverbal cues, and images or just speaking to someone or an audience.

2.2.1. Effective Communication. The ability to communicate effectively is essential for a Navy instructor. Communication goes beyond just speaking; it involves the entire presence of the instructor. How an instructor presents themselves has a significant impact on students' interest and desire to learn. A Navy instructor must be able to convey their knowledge, skills, and experiences to students in a way that facilitates the learning process. Often, how an instructor communicates has more influence than the content of the message itself. The skills and techniques outlined in this chapter will help instructors strengthen their ability to communicate effectively.

The essentials of effective communication for Navy instructors include the Model of Effective Communication; voice, eye contact, gestures, and attitude (VEGA); and oral questioning techniques.

2.2.2. Model of Effective Communication. The five elements of the Effective Communication Model are the sender, message, delivery vehicle, receiver, and feedback (Figure 2-1).

a. **Sender.** There are four steps involved in sending a message. First, the instructor must formulate the message to be communicated, either mentally or in an instructor guide (IG). Second, they must consider possible barriers to the message being delivered and received. These barriers include the instructor's own experience, the students' experience, the terms used, and even the instructor's feelings toward the subject matter being taught. External barriers and environmental factors, such as noise, must also be considered. Third, the instructor encodes the message—in other words, they put the message into the words they want to use. Lastly, the instructor communicates and transmits the message to the receiver.

b. **Message.** The message is the content the instructor wishes to convey, which can be verbal (spoken language) or nonverbal (body language).

c. **Delivery Vehicle.** The delivery vehicle refers to the method chosen by the instructor to convey the message. This could include written or spoken

words, visual aids, computer-based lessons, video, motion graphics, animation, and recorded audio. Technology, such as instructional media material (IMM), is another method for delivering messages.

d. **Receiver.** There are four elements to receiving a message. First, the students (receivers) hear or see the message sent by the instructor. Second, the message is affected by external barriers such as noise or distractions, or by internal barriers within the students, such as their experience level, understanding of terms, or fear. Third, students decode the message, interpreting it through mental images and thoughts. For example, if the instructor says the word "circus," the receiver may not visualize the letters of the word but may instead form a mental image of clowns, a big top, lions, acrobats, and so on. Finally, students will interpret the message. At this stage, it is unclear whether all students received the message as intended. To assess the effectiveness of communication, the instructor must obtain feedback from the students.

e. **Feedback.** Effective communication is achieved when the receiver has understood the message. Feedback is considered the most important element of the communication loop, as it confirms whether the message has been received and interpreted correctly.

   Feedback can take various forms and is crucial for assessing the success of communication. Instructors can gather feedback by asking students oral questions and encouraging them to ask questions for clarification. Students' non-verbal behaviors, such as facial expressions and body movements, also provide valuable insights into their understanding of the material. If students appear confused, this may indicate that the message was not fully understood. Instructors must avoid accepting a simple "yes" response when asking, "Do you understand?" Instead, the instructor should ask follow-up questions that require students to elaborate and demonstrate their understanding, ensuring that the message has been conveyed as intended.

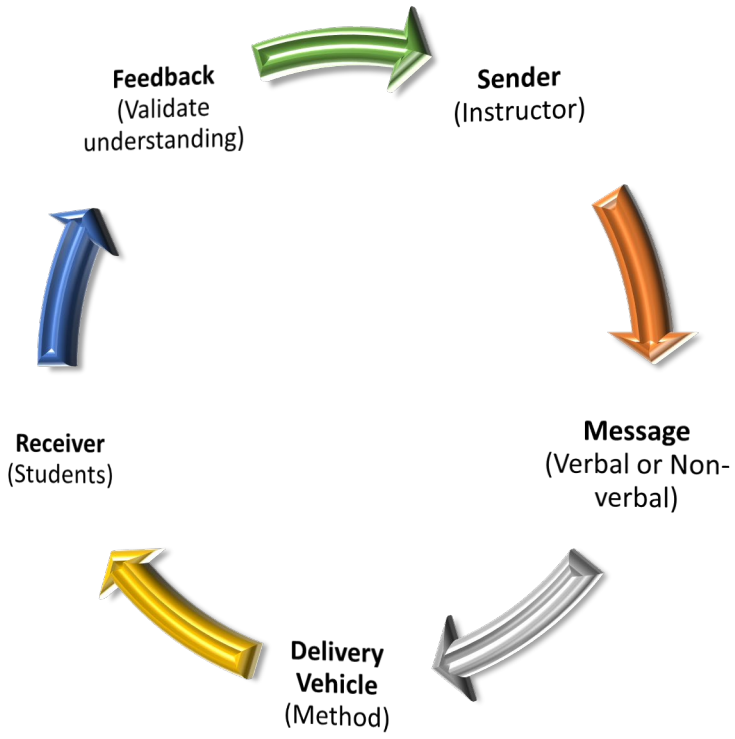

Figure 2-1: Model of Effective Communication

2.2.3. Importance of Effective Communication. The purpose of effective communication in a learning environment is to ensure that students fully understand the material presented by the instructor. There are two primary communication principles that an instructor must grasp:

a. Identifying and removing barriers to communication.

b. Understanding the communication process itself.

Effective communication may include the following benefits:

a. It helps students grasp complex concepts, ask questions, and receive helpful feedback, leading to better understanding.
b. It encourages participation, fostering a safe and healthy learning environment.
c. It builds stronger social skills and relationships, fostering a sense of belonging and support.
d. It develops problem-solving and critical thinking providing engagement.
e. It helps prevent misunderstandings, reduces conflict, and creates a more positive learning environment.

2.2.4. Active Listening. Listening is one of the most important communication skills for a Navy instructor. It is an active two-step process of hearing and understanding that requires conscious effort and attention between the instructor and students. Both the instructor and the students have responsibilities for actively listening throughout the communication process.

The key to improving listening skills is to consistently practice active listening. Active listening involves a conscious effort to focus not only on the words that another person is saying, but more importantly, on understanding the complete message being sent. Active listening is a two-step process: focusing and understanding.

a. **Focusing.** When interacting with students, instructors should maintain eye contact with the speaker, showing attentiveness without staring, as prolonged eye contact can create discomfort or tension. Instructors should also be mindful of students' non-verbal cues, as these can provide valuable insights into their thoughts and engagement. For instance, an inquisitive expression may suggest a student is confused or curious and ready to ask questions. A student leaning slightly forward with good eye contact is likely engaged and interested in the material. A nodding head typically signals agreement, understanding, or approval. Conversely, if a student is looking away, such as out of the window, or is focused on something other than the instructor, it may indicate boredom or a lack of interest. Fidgeting in a chair or slouching can also be signs of disengagement, while raised hands and relevant questions suggest that the instructor is effectively communicating. Instructors must be vigilant in observing both direct and indirect feedback to gauge student attention and participation. Any signs of distraction or disengagement should be promptly addressed.

   Additionally, instructors should avoid interrupting students while they are speaking. It is essential to allow them to finish their thoughts before responding. Small verbal acknowledgments like "yes" or "okay" can encourage the speaker to continue without disrupting the flow of conversation.

b. **Understanding.** There are several ways an instructor can demonstrate understanding of what the speaker is communicating. Recognizing and acknowledging valid points in the discussion is one way to show understanding. Another method is to rephrase key points of the discussion to confirm understanding. If any part of the speaker’s message is unclear, the instructor must ask questions to clarify before moving on.

2.2.5. Managing Nervousness. One of the biggest fears for new instructors is the concern that they may not be able to overcome their feelings of nervousness. The key is not necessarily to eliminate the fear, but to manage it effectively. Nervousness becomes less of a problem when instructors learn how to cope with it. Table 2 outlines some common sources of nervousness and provides tips for managing those feelings as a new instructor.

Table 2: Strategies for Nervousness

What Nervousness Looks Like	Strategies for Managing Nervousness
Shifting your weight from foot to foot or pacing back and forth.	Move naturally around the learning environment.
When you are unsure of what you need to say, your eyes will move away from the students you are teaching.	Prevent poor eye contact by preparing thoroughly with lots of practice.
Using excessive pause words such as “um,” “uh,” “okay,” “all right,” “like,” etc.	Control the pause words by slowing down your speech as you are teaching, think before you speak as you are teaching. This can be strengthened through practice and repetition, as well as strengthening knowledge in confidence in your teaching of the subject matter.
Losing your train of thought.	Do not apologize and acknowledge your nervousness. When you get nervous - stop talking, check your notes, gather your thoughts, look back at your students, take a deep breath of air, and then resume speaking.
Getting dry mouth.	Control dry mouth by always having a drink of water nearby. If you find yourself getting dry mouth, pause, take a quick sip of water, and then resume talking.
Using distracting gestures such as handwringing or fidgeting with your uniform.	Control distracting gestures by placing your hands behind you. Use your hands only when you need to emphasize a point. (Be careful not to maintain this pose too long because you might appear to be immobile.)

2.2.6. Five Steps to Harnessing Nervousness. The Five Steps of Harnessing Nervousness can be used to control and manage nervousness before teaching:

a. **Acknowledge and Accept Nervousness:** Recognize that nervousness is a natural response to challenging situations, and it can be a sign of excitement or anticipation.

b. **Practice and Prepare:** Thorough preparation and practice can significantly reduce anxiety. Rehearse the material or task to be taught multiple times to gain familiarity and confidence.

c. **Prepare the Environment:** The instructor must have the IG prepared and any activity items ready before the start of class. Ensuring that student support materials are readily accessible is also important for smooth delivery.

d. **Reframe Nerves as Excitement During Delivery:** Instead of focusing on the negative aspects of nervousness, try to reframe it as a positive feeling during delivery of the lesson. Refer to the instructional materials effectively, including visual aids, to enhance the delivery of the lesson and to mask any delays in delivery due to nerves

e. **Employ Active Listening to Reflect:** Students will express their needs and concerns during the instruction. Use active listening to receive student feedback and improve instruction.

2.2.7. Additional Verbal Communication Skills. There are several additional verbal communication skills that the instructor may consider when delivering instruction:

a. Use language appropriate for the group's level of education, ensuring that the message is clear and accessible to all students.

b. Base examples on the job or new skills being taught to make the material more relevant and relatable to the students' experiences.

c. Verbally acknowledge student answers or provide feedback in real time. It is important that feedback is constructive and supportive, rather than derogatory.

d. Avoid profanity or any other offensive language. The use of inappropriate language is considered an automatic failure on an instructor evaluation. Additionally, the instructor will be immediately removed from the podium and counseled.

2.3. Voice, Eye Contact, Gestures, Attitude. Delivery style has a major impact on student motivation and largely determines how well students listen. Effective instructor

delivery can be remembered with the following acronym: VEGA - Voice, Eye contact, Gestures, and Attitude.

2.3.1. Voice. There are two methods that will improve all aspects of an instructor's speaking voice. First, instructors may listen to polished speakers, such as newscasters or podcasters. These individuals serve as effective models due to their refined speech techniques. While it is not necessary to imitate them exactly, instructors can benefit from studying how these speakers use their voices to convey meaning and emphasize ideas to their audiences. Second, instructors should make a habit of listening to themselves daily—whether while teaching, speaking casually, or interacting with colleagues. They should intentionally and regularly evaluate their use of speech based on the factors outlined in this section. Recording a lesson or rehearsal and reviewing the audio can help identify areas for improvement in speech delivery. The following verbal skill factors are important considerations in your delivery of instruction:

a. **Articulation:** Articulation is simply understandable speech. Good articulation in speaking can be achieved in two primary ways. First, one should enunciate—that is, speak clearly. Second, correct pronunciation must be used, placing proper accent on syllables and reproducing consonants and vowel sounds per accepted standards, such as those found in the dictionary.

   To be an effective speaker, crisp and distinct enunciation should be a priority. Slurring and mumbling should be avoided. It is important to speak loudly and project the voice so that one can be heard clearly. Slang expressions such as "ain't," "jist gonna," or "hafta" should not be used during instruction or rehearsal. Exaggerating enunciation beyond what is required in normal conversation can be helpful practice. The principle of sharp enunciation should be applied not only in instructional settings but also in everyday speech. If a speaker has a regional accent—such as a Southern drawl or a New England Twang—it need not be eliminated. Instead, it can be embraced as a distinctive part of one's personality. Alight accent often adds charm and interest to speech; however, it is essential that listeners from other regions can still clearly understand what is being said. It is acceptable to correct one's own pronunciation in front of a class if a mispronunciation is recognized.

b. **Grammar:** Grammar concerns the correct usage of the spoken or written words. It is like code. When grammar is used correctly, the message comes through clearly and quickly. But when encoding errors, the one who receives the message must work to extract the precise meaning of the message. Sometimes the message may not come out exactly right, and that is okay on

an occasional basis. However, instructors must strive to be as clear as possible and never commit glaring grammatical errors. Instructors should not hesitate to correct themselves if they realize they have used incorrect grammar while teaching.

c. **Rate of Speech:** A speaker should neither talk at a leisurely pace that puts listeners to sleep nor use a rapid, machine-gun delivery that causes words to blur together. Instead, the speaker should aim to speak quickly enough to remain engaging, yet slowly enough to be clearly understood. Just as a skilled baseball pitcher keeps the batter alert by varying the speed of the pitch, a speaker should use vocal changes in pace to maintain audience interest.

   The rate of speech should be guided by the complexity of the idea, thought, or emotion being communicated. A fast pace is effective for conveying joy, excitement, or physical action, while a slower rate is more suitable for deliberate, methodical delivery. Emphasis can be achieved by either slowing down or speeding up the rate of speech. The typical rate of delivery ranges from 125 to 150 words per minute. As instructors gain experience, they may even help students identify key points of a lesson simply by varying their speech rate.

d. **Pauses:** In writing, punctuation marks separate thoughts and ideas and gives the desired meaning and emphasis to words. In speaking, pauses serve the same function. A speaker may use pauses to gain humorous, dramatic, or thought-provoking effects. Speakers use them as a vocal means of punctuation for the ideas they are conveying. Proper use of pauses gives listeners a chance to absorb ideas and gives the speaker a chance to breathe and concentrate on the next point. Pauses also give emphasis, meaning, and interpretation to ideas, whereas improper pauses can inhibit message delivery and understanding.

   The following suggestions will help a speaker overcome common pausing difficulties:

   (1) **Not enough pauses:** Begin by reading aloud a familiar passage. The speaker should pause between ideas and at periods, commas, and other punctuation. The speaker should try to adopt the attitude of the artist who makes a few brush strokes and then steps back to evaluate the results.

   (2) **Too many pauses:** A lack of knowledge of the subject, failure to organize material thoroughly, or inadequate rehearsals usually result in too many

pauses in the speaker's delivery. The instructor should study the material thoroughly and organize the lesson on paper. Then, rehearse until thoughts and words flow smoothly. Thorough familiarity with the subject matter increases verbal fluency.

(3) **Overuse of verbal connectors:** Pauses, properly placed in the flow of speech, are often more effective than words. Filling pauses with meaningless sounds gives listeners the impression that the speakers are not confident in what they are saying, and that they are not prepared. It may also prove to be an annoying distraction for students. Too many "uhs" and "ahs" may be detrimental to an otherwise effective lesson. To improve on this difficulty, use the same techniques suggested for eliminating too many pauses and leave out the "uhs" and "ahs." Many people are unaware they have this habit. Recordings of instructional delivery may allow for the evaluation of this problem.

e. **Inflection:** Inflection refers to a deliberate change in the normal pitch or tone of the speaker's voice. Just as musical notes form a melody when arranged in different positions on the scale, a voice becomes more engaging, and words more meaningful, when pitch variations are introduced in speech. By varying your pitch and tone, you can create a more dynamic delivery, capturing attention and emphasizing key words. The following example demonstrates how inflection on different words can alter the meaning of a question. Read the question below, raising your pitch (without increasing volume) on the underlined words, as shown in Figure 2-2.

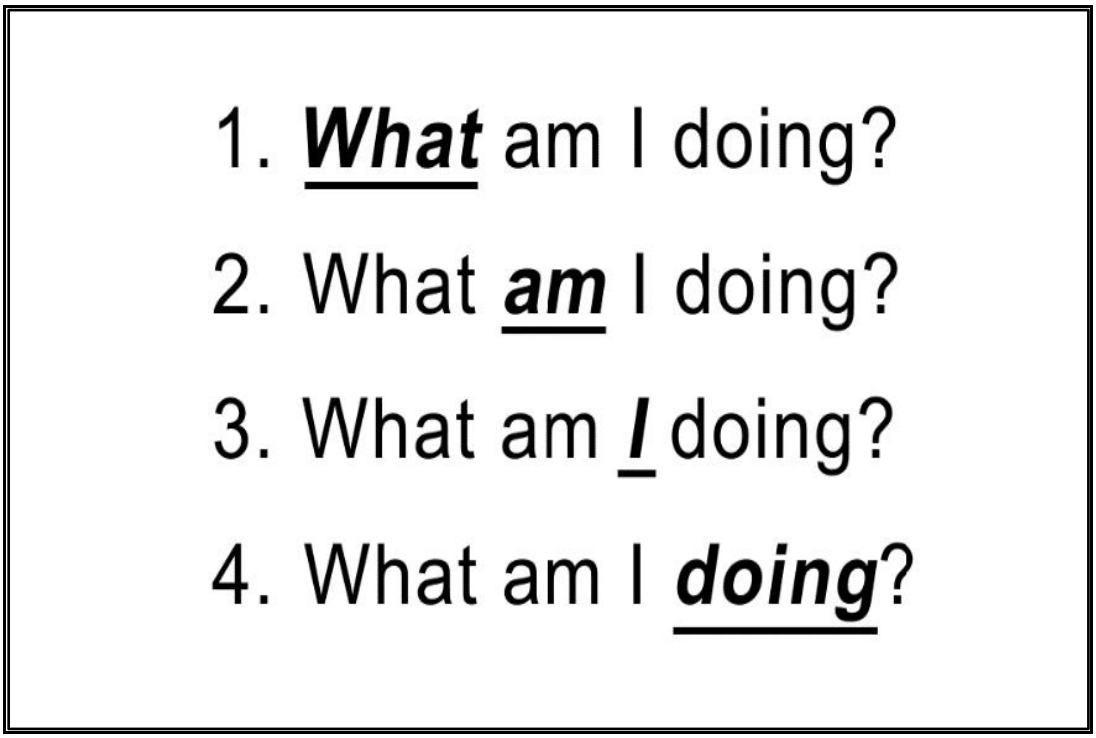

Figure 2-2: Voice Inflection Practice

Inflection is the key to expression of mood. It can be emotional, persuasive, or convincing. Using inflection can move an audience to tears or laughter and create lasting impressions. Without inflection, however, the audience may fall asleep, and the speaker will sound monotone. Like pauses, inflection is a way of punctuating speech. It can put the question mark at the end of a question, make a statement of fact more positive, or help to put an exclamation mark at the end of a strong statement. Inflection is the principal difference between just saying words and speaking ideas with meaning. Try the following suggestions to improve infection:

(1) **Read aloud to communicate emotions:** Inflection conveys feeling and meaning. However, feeling also produces good inflection. Instructors often express emotion through inflection. To practice using inflection, it is helpful to read aloud and try to communicate emotions through the voice. Making a voice recording can be an effective way to improve inflection, as it requires communicating solely through the voice, without relying on gestures or facial expressions.

(2) **Practice downward and upward inflection:** Generally, downward inflection at the end of a sentence expresses conviction. However, downward inflection within the sentence itself gives sense of finality to the thought

and creates a mental break in the listeners' thoughts. Use slight upward inflection within the sentence to indicate that the thought is not yet complete; that serves to bind ideas together and to give unity to the thought. Use upward inflection at the end of a sentence only when asking a question or implying uncertainty.

f. **Use Forceful Speech:** Forceful speech combines the volume or carrying power of the voice with the demonstrated vitality, strength, and conviction of the speaker; it includes the proper emphasis on key words and phrases.

Like rate, pauses, and inflection, force is a way of conveying conviction, of giving meaning, or of adding emphasis. Yet, unlike rate, pauses, and inflection, it cannot be set apart distinctly. Force involves rate, pauses, inflection, fullness of tone (projection) and proper regulation of loudness. Listeners will not respond to a speaker who shouts and is insensitive to their feelings. Neither will they be convinced by the cool, detached manner of a speaker who is consistently calm, quiet, or patronizing. To communicate, the speaker must awaken reactions and feelings in your listeners.

Using VEGA skills and choice of words, a speaker can convey force to the listeners. But listeners will neither hear you nor see you unless the speaker projects words and actions with a vitality and strength of conviction. Force is not loudness, shouting, gesturing wild, or vulgar language. Force is knowing what is important and then saying it with firmness and confidence. The following common difficulties with force have accompanying suggestions for improvement:

(1) Lack of volume: To increase volume, select listeners in the back of the room to discern if the speaker is heard clearly. The instructor may also rehearse in an empty classroom and speak to an imaginary person in the back of the room - practicing the projection of the voice to reach the imaginary person at the back. Since these exercises will make a speaker aware of the distance involved, they will motivate the speaker to increase their volume. The diaphragm is engaged when increased volume is employed.

(2) **Dropping volume at the end of words or sentences:** Dropping volume usually results when a speaker incorrectly associates a drop in volume with a downward inflection. Instructors should develop the habit of monitoring the sound of their own voice to determine whether they are being heard clearly. They should practice lowering the pitch without

reducing the volume. Recording one's voice can help identify how it sounds to others. Reading aloud while focusing on projecting each word, thought, or idea to an imaginary listener at the back of the room can strengthen vocal delivery and clarity.

(3) **Failure to give emphasis to main points or key words:** To emphasize main points, an instructor must first have a thorough understanding of the subject matter. With this knowledge, key ideas can be clearly communicated by stressing important words and phrases through variations in volume, pitch, rate, and strategic pauses. Proper emphasis leads to more convincing and authoritative presentations, helping students identify and retain the most critical takeaways from their lessons.

2.3.2. Eye Contact. The most powerful element of an instructor's presence in front of a class is direct eye contact with the audience. By looking directly into the eyes of each student, an instructor personalizes the lesson and encourages active listening. Each student should receive direct eye contact several times during a lesson, with each instance lasting approximately three to five seconds. This interval allows for personal engagement without appearing overbearing or causing discomfort. It is important to scan the entire class naturally, avoiding a mechanical pattern.

Instructors should also avoid common pitfalls, such as speaking primarily to the visual aids or training equipment, as this can disengage students and give the impression of poor preparation or a lack of confidence. Maintaining consistent eye contact enhances the instructor's credibility and fosters a sense of connection.

Another key reason for maintaining eye contact is to observe students' nonverbal cues. Expressions of interest, confusion, or understanding provide valuable feedback on instructional effectiveness and can guide real-time adjustments. When students feel that the instructor is genuinely aware of their presence and engagement, they are more likely to participate actively in the learning process. This approach helps transform instruction into a more interactive and conversational experience.

2.3.3. Gestures. Gestures, including body movements, facial expressions, and hand actions, are essential tools for instructors to communicate thoughts and emotions effectively. The way gestures are used reflects the instructor's personality, whether energetic or calm, and can significantly enhance teaching when they are natural and purposeful. Relaxed gestures convey confidence, while tense movements can detract from the message.

Key Points:

a. **Natural Gestures:** Instructors should use gestures spontaneously from enthusiasm to strengthen their message. Forced or exaggerated gestures can distract students.

b. **Descriptive Gestures:** These illustrate concepts (e.g., showing size, speed, or direction) and symbolic gestures (e.g., forming a "V" for victory).

c. **Facial Expressions:** A critical part of communication, facial expressions should match the instructor's emotions to inspire and engage students. Problems like a "deadpan" face or overly intense expressions can be fixed with relaxation and appropriate intensity.

d. **Avoid Distracting Gestures:** Inappropriate gestures like fidgeting, pacing, or keeping hands in pockets can distract from the content. Instructors should maintain natural, purposeful movements.

e. **Movement:** Intentional movement around the classroom helps capture attention and emphasize key points. It should be moderate, avoiding excessive or aimless movement, which can signal nervousness.

f. **Planning Movement:** Instructors should plan their movement to align with key moments, like transitioning to a new instructional point, to support engagement and clarity.

Gestures to Avoid:

a. Fidgeting

b. Pacing

c. Over-gesturing

d. Folding arms

e. Being immobile

f. Being over relaxed

g. Two fisted

h. Swaying

Effective instructors combine gestures, facial expressions, and movement to create a natural, engaging, and confident teaching presence.

2.3.4. Attitude. Attitude is the instructor's most vital trait. Instructors demonstrate attitude by verbal skills, eye contact, and gesturing. It can be a positive or negative

motivating factor that will make or break the overall quality of their instruction. The four specific indicators of a good speaking attitude are sincerity, confidence, enthusiasm, and humor.

a. **Sincerity:** Sincerity, from the speaker's point of view, is the apparent, intense desire to convince the audience of the truth and value of an idea. The two sources of sincerity are a personal, intense belief in the subject being taught and a belief in the value of your subject to the listeners. The first of these sources is ideal because intense personal beliefs convey a natural sincerity that show in every word or gesture. However, instructors should not overdo it and make a particular lesson into a personal soapbox. That will detract from the task of delivering the lesson and the credibility of the instructor. The second source is more rational than emotional. When an instructor demonstrates the material has value, they will present it in an honest and forthright manner. There is no need to rely on gimmicks or questionable reasoning to make the presentation look good.

   By demonstrating genuine belief in the material being presented, an instructor can effectively convey the importance of the subject to students. Sincerity is reflected in multiple ways—through tone of voice, facial expressions, clarity of explanation, a balanced display of humility and authority, and purposeful use of body language to reinforce key ideas. Students must see, hear, and feel that the instructor is fully invested in the content, as this authenticity enhances engagement and reinforces the value of the lesson.

b. **Confidence:** Confidence is a personal attitude rooted in self-assurance and belief in one’s ability to perform a task effectively. For an instructor to project confidence in the classroom, two key elements are required: thorough knowledge of the subject and belief in the ability to speak clearly and competently. Subject matter knowledge is developed through consistent research and study, while confidence in delivery is built through preparation, rehearsal, and practical experience. Meeting these requirements is the responsibility of the instructor and can be achieved through dedication and effort.

c. **Enthusiasm:** Enthusiasm is the outward manifestation of sincerity and confidence. From the speaker’s standpoint, enthusiasm is a strong personal excitement or feeling about a cause or a subject. In the case of teaching, the subject would be whatever you are teaching, so show enthusiasm.

Enthusiasm is not shouting; it is not phony or overdramatic speech; it is not waving of the arms and leaping about on the platform. Enthusiasm is demonstrated not just by what is said, but by how strongly the instructor believes in the subject and expresses that belief. The way enthusiasm is shown is largely shaped by the instructor's natural personality. For example, a vigorous and dynamic individual may express enthusiasm through energetic movement, sweeping gestures, a rapid speech rate, varied inflection, and strong vocal projection. In contrast, an instructor with a more reserved demeanor may use more controlled gestures, speak in measured tones, emphasize key ideas with selective force, and make effective use of pauses for emphasis.

Most effective instructors draw from both styles, blending energetic and composed techniques to communicate enthusiasm in a way that aligns with their personality while maintaining a confident, engaging, and authoritative presence.

d. **Humor:** An instructor may be sincere, confident, and enthusiastic, yet still lack the element of humor that contributes to truly effective instruction. Without a sense of humor, an instructor can come across as unapproachable, overly rigid, or robotic. Humor reveals the instructor's humanity and shows that they are warm, lively, and genuinely engaged with their surroundings.

Having a sense of humor does not necessarily imply the ability to tell funny jokes, although tasteful, relevant jokes can certainly have a place in good instruction. Used properly, jokes can increase student engagement and build rapport with the students.

A more effective type of humor is spontaneous humor. Take advantage of unexpected humorous classroom situations that sometimes arise - make a brief comment, pause, or simply smile. Humor directed at oneself is often particularly effective, as students tend to respond well when a figure of authority is comfortable being the subject of gentle humor.

When using humor, the most important guideline is good judgment. Humor should never be directed at a specific student, nor should it take the form of sarcasm, as this can alienate individuals or cause discomfort. Instead, humor should always be good-natured, inclusive, and lightly delivered. While incorporating humor along with sincerity, confidence, and enthusiasm, instructors must also always maintain professionalism.

2.4. Questions Used in the Classroom. The use of oral questions allows the instructor to determine if they are maintaining essential communication and check for understanding. Oral questioning improves effectiveness and student learning if used properly. This section will discuss effective questioning techniques.

2.4.1. Oral Questions. Effective use of questions is the most powerful technique an instructor can apply to increase student participation and enhance the learning experience, so becoming skillful in the art of questioning is vital to the development as an instructor.

In a typical classroom, someone is talking two-thirds of the time, and of that time, the instructor does much of that talking. This means that the students get only limited time to respond in those classroom environments. Through good questioning techniques, an instructor can increase and improve the amount of student responses beyond the one-word contribution. For two-way communication to take place between the instructor and the students, the instructor must use thought-provoking questions throughout the lesson to create engagement.

2.4.2. Purposes of Oral Questioning. The primary purpose of oral questioning is to get the students to think and get them involved in learning. Navy requirements call for people who can operate complex equipment and carry out those troubleshooting and maintenance procedures needed to keep the equipment operating at peak performance. To perform those duties effectively, Sailors must be trained to analyze, compare, and interpret facts, data, and methods. All of these will require a higher level of critical thinking skills.

Oral questioning also provides the instructor with a practical means for establishing the base knowledge of the students. Students may vary greatly in their baseline knowledge they have acquired through previous training and experience. The instructor must determine the level of achievement of the students before proceeding with the presentation of new subject matter – student experience level will influence what level of explanation in which the instructor will need to start the lesson. Although the instructor may use a pretest or a questionnaire for this purpose, the quickest and simplest means is a series of oral questions to gauge understanding.

Oral questioning has three other important purposes:

a. **Encourages student contributions and involvement.** Oral questioning gives students a sense of ownership in their learning process. Questioning also reduces student frustration by allowing students to voice their opinions and engage in productive dialogue.

b. **Provides emphasis and reinforcement of main ideas.** Effective oral questioning focuses attention on a particular area of the subject matter. It can be used to drill students on critical subject matter they must recall precisely, such as correct terminology, functions of parts, and safety precautions.

c. **Check the effectiveness of instruction.** Instructors can use questioning to ask if students can recall specific information. The student responses help the instructor determine the level of student retention and ensure the lesson objectives have been met.

2.4.3. Characteristics of Good Oral Questioning. Questions that are poorly worded, vague, or ambiguous will frustrate both the instructor and the students. Students who do not comprehend the true meaning of poorly phrased questions will hesitate longer than usual and then give uncertain answers. The instructor may feel dissatisfied with the answers and want to reprimand the students for their lack of attention and understanding. The students, knowing that they have answered unsatisfactorily through no fault of their own, may lose enthusiasm and withdraw from actively participating in the class. Instructors can avoid these frustrations by planning questions in advance, as well as carefully choosing and arranging words and phrases. The construction of good oral questions requires three considerations: level of instruction, use of the interrogative, and clarity of meaning.

a. **Level of Instruction.** In asking questions, use simple words, correct grammar, and complete sentences. Use words the students know and understand. As the course progresses, introduce them to new terms and more technical phraseology. Ask questions at times that suit the presentation of course material. Plan questions that require students to think before answering.

b. **Use of Interrogatives.** Use an interrogatory word or phrase at the beginning of a question so that students know immediately a question is asked. Examples of interrogatory words are Who, What, When, Where, Why, and How. These are also known as journalistic questions. In other words, when a person knows the Who, What, When, Where, Why, and How of a thing, then they have the full story.

Here are two examples of poorly phrased questions in which the interrogatory words are ineffectively placed:

(1) "The two sizes of fire hoses most frequently used in the Navy are what?"

(2) "You can determine whether or not explosive vapors are in a compartment by what means?"

Questions worded in this manner handicap students in at least two ways. First, the students are expecting a declarative statement, not a question. Second, they cannot identify the meaning of the question until the final words are spoken. Note the improvement in these same questions when an interrogatory word or phrase is placed at the beginning:

(1) "What are the two sizes of fire hoses used most frequently in the Navy?"

(2) "What means can be used to determine whether or not explosive or toxic vapors are in a compartment?"

c. **Clarity of Meaning.** Avoid the use of trick questions as an instructional device, especially for beginner students. Make sure the wording of the question conveys the true or intended meaning. The students must understand what you want, regardless of whether they know the correct answer. Consider the following question:

"Where are storm warning flags flown?"

This question fails to indicate what point is being tested. Instead consider the following question which adds clarity:

"Where are storm warning flags flown aboard ship?"

Make questions brief and limit them to one thought. Including too many factors in a single question confuses students. Ask clear and well stated questions in a normal conversational tone as part of the lesson. After each lesson, re-evaluate questions considering how well the student responses contributed to better learning.

2.4.4. Types of Oral Questions. Learn to use oral questions throughout the lesson. Use polling questions in the introduction to create topic interest and determine the students' baseline knowledge of the subject. Use open-ended questions, interest arousing, and leading questions to ensure student understanding. Then, use closed-ended questions at the end of the presentation for review and drill purposes.

The seven types of oral questions:

a. **Factual.** The primary purpose of a factual question is to ensure students memorize facts. They are normally used in the summary and review. Factual questions ask for specific information. For example:

"When was the first U.S. nuclear powered submarine built?"

However, the one correct answer could be made up of many parts: for example:

"What are the five parts of a jet engine?"

"What are the colors of the U.S. flag?"

Factual questions are close-ended questions, meaning they only have one correct answer. They can also be used to arouse interest and focus attention on specific parts of the subject matter. Factual questions are also very good for gauging the level of instruction.

b. **Yes/No Questions.** Yes/no questions, of course, call for a simple answer - yes or no. These are also closed ended questions. Yes/no questions do not need to start with an interrogative. Closed ended questions have value in arousing interest, focusing attention, encouraging participation, and serving as prefaces to other kinds of questions. For example:

"Why do you believe that to be true?"

Be aware, though, that a disproportionate use of yes/no questions tends to encourage students to guess and may limit student participation.

c. **Thought Provoking Questions.** Thought-provoking questions normally begin with interrogatory expressions such as, "What is the advantage of," "What is the difference between," "Why is this method considered superior to," "How would you solve the problem if," and so forth. Thought-provoking questions are open-ended and force students to think.

Prepare thought-provoking questions on key lesson points in advance of the lesson. Reevaluate them after the lesson to see which ones should be used again, which ones may be revised for next time, and which ones should be discarded altogether.

d. **Interest Arousing Questions.** Interest-arousing questions are often a cue prompting curiosity or further thought. Initially, these questions appear to require a factual answer. For example:

"How many Navy ships were involved in collisions at sea during the past year?"

This question would be responded to correctly by a specific number. However, the number is not the goal. The goal of this question is to focus attention and stimulate curiosity about the subject the instructor is presenting.

e. **Multiple Answer.** Multiple answer questions are open ended and therefore have more than one correct answer. They may be used to increase student participation or cause students to think about the other students' answers and discuss. Multiple-answer questions generate a high interest level and improve listening skills among the students. Factual, thought-provoking, and multiple-answer questions may also be interesting. That depends upon the intention in asking them, not upon the question's form or content. However, if overestimating the knowledge of the students, questions intended to be factual may turn out to be thought-provoking. If underestimating the students' knowledge, questions intended to be thought-provoking may turn out to be factual.

f. **Leading.** Leading questions suggest their own answer. For example:

"Would you smoke in the paint locker, which contains flammable material?"

If used properly, leading questions have value in focusing students’ attention, in arousing interest, and in emphasizing a point. Leading questions may be used to help the student think the matter through to the right answer. If students are struggling to find the right answer, ask a question that directs their attention to information they know but may have overlooked in answering the question. This technique is valued when used skillfully because it builds a student's confidence. Occasionally, use leading questions to help struggling students, saving them the embarrassment of failure in front of the class. If used too frequently, however, leading questions may discourage any real thinking and become boring to the students.

g. **Canvassing or Polling.** Use canvassing questions to determine which students are familiar with a specific area of subject matter and which students are not. If you are discussing damage control, for instance, you may ask:

"By a show of hands, how many of you have been involved in an actual shipboard fire?"

A show of hands provides information about student experiences that instructors may find useful as a lesson progresses. It gives the instructor a great opportunity to bring some real-life examples into the lesson and to provide some individual recognition for student contributions. Canvassing questions are useful in the introduction of a lesson to create interest and can also help to determine the necessary level of instruction for the class. A

polling question is very similar to a canvassing question but allows students to choose from two or more options.

2.4.5. Oral Questioning Techniques. There are several oral questioning techniques that can help you deliver your questions more effectively.

a. **The Five Step Questioning Technique.** A recommended technique of oral questioning consists of five steps: asking the question, pausing, picking or calling upon a student, listening to and evaluating the student's answer, and emphasizing the correct answer. A simple way to remember how to use the five-step questioning technique effectively is ask, pause, pick, listen, emphasize "APPLE" (Figure 2-3).

Figure 2-3: The Five Step Questioning Technique

(1) **Ask the Question.** The first step in good questioning techniques is to clearly state the question. Since the intent of questioning is to provoke student thoughts, ask the question before calling on a person to answer. Pose the question to the entire class. State the question clearly, using

only one central thought, by placing the interrogative word at the beginning of the statement to alert students that a question is coming. If necessary, repeat the question. Do not change the wording of the question unless necessary.

(2) **Pause.** After posing a question, give students ample time to think through their responses. Adjust the length of the pause based on the complexity of the question and the students' level. Many instructors don't pause long enough after asking questions. Avoid the temptation to answer too quickly, as this diminishes the value of the questioning technique. During the pause, maintain eye contact with the class. Embrace the silence. It's beneficial, encouraging deeper thought and providing students with an incentive to speak up and fill the quiet.

Shotgunning is an inappropriate technique in which the instructor calls on a student too quickly or calls on the student to answer the question before the question is asked to the entire class, allowing only one second for students to instinctively respond. Calling on a student too quickly is often as detrimental as calling on the student before asking the question. Allow three to five seconds to encourage higher level responses. Shotgunning a student may also cause them to shut down and no longer be responsive to the instruction.

(3) **Pick or call on a student.** After pausing for a three to five seconds, call on a student by title and name to answer the question. Calling on a student by name satisfies a basic student's need for recognition. If students feel the instructor recognizes their individual efforts, they will put forth greater effort to contribute. This will also encourage other students to listen so they can respond and evaluate the answer.

When selecting a person to respond, consider both the difficulty of the question and the individual abilities of students. Consistently assigning a difficult question to a less experienced learner will demotivate that student, while always calling on the top student for the most difficult questions may demoralize the whole group. Instead, spread the questions around without establishing a predictable pattern. A predictable pattern includes calling on students either in alphabetical or seating order or calling upon a select few whose names are familiar to the instructor. Scattering questions also prevents mental loafing. More experienced learners will dominate the class discussion if the instructor does not control student participation.

Reach a balance between calling on volunteer respondents and non-volunteers. Allow only one student to answer at a time but encourage all students to participate and volunteer answers. Although the instructor may not call upon every student during each class, let students know they are expected to take an active part. If there are not enough questions to get to each student, the instructor can always ask two or three students to respond to the same question before evaluating their answers.

(4) **Listen to and Evaluate the Student's Answer.** The next step is to comment on the answer given or acknowledge the response. This demands a careful and quick mental evaluation of the answer for accuracy and completeness. Provide feedback to the responder and class on the quality of the answer. When a student gives an incorrect answer, be critical only of the answer and not the student. Acknowledge the students' response and give them another opportunity to answer. If they cannot answer the question correctly, reengage the class by posing the question to the entire class again. Be sure to provide positive reinforcement for correct answers. The strength of the reinforcement depends on the difficulty of the question asked and the relative difficulty level for the student selected. Do not overdo the reinforcement. A simple "correct" or "thank you" may be sufficient.

(5) **Emphasize the Correct Answer.** The fifth and last step in the process, which is optional, is to emphasize or repeat the answer given. Avoid the tendency to repeat each answer, as that has the effect of diminishing the student's response. Remember that the students' answer has an importance for the class as well as for the instructor. Insist that answers be clearly spoken, heard by all, phrased intelligibly, and, if possible, stated in the terminology of the lesson.

2.4.6. Additional Questioning Techniques. There are other questioning techniques that may be helpful in the classroom. The following questioning techniques may be used in addition to or in conjunction with the Five-Step Questioning Technique. Use these techniques to increase classroom engagement and the overall learning experience for your students.

a. **Calling on non-volunteers.** To encourage participation among non-volunteer students, focus questions on those who aren't actively raising their hands. By avoiding eye contact with more vocal participants, the instructor creates a space for quieter students to engage. Assign questions to students who haven't volunteered, and make sure to recognize their contributions

appropriately. This approach will foster greater involvement, attention, and participation in the class, as all students will understand that they may be called upon, regardless of whether they raise their hands.

b. **Prompting.** Sometimes the instructor may need to prompt a student who has given a weak, incorrect, or an "I don't know" response to a question. Help the student to arrive at the correct answer by asking follow-up prompting questions that contain direct hints or clues to lead them to the correct answer. The key to effective prompting is to begin on a simple enough level that the student can relate to the material and form an association based on the retrieval cues you give them (in other words, a clue that "jogs" their memory). The questions in the prompting sequence depend on the student's previous response(s) and build until the correct response is given:

   (1) To begin the sequence, refer to material the student already knows.

   (2) If the initial student response was partially correct, first provide reinforcement by telling the student what was right about their answer. Then ask prompting questions until the student can give the entire correct response. If the student's first answer is "I don't know," rephrase the question or provide an example to eliminate any confusion, ambiguity, or vagueness in the original question.

   (3) Acknowledge the final correct student response in the same manner as if the student had given the correct response the first time.

c. **Seeking Further Clarification.** When a student gives a response that is poorly organized, lacking in detail, or incomplete, do not provide the student with any hints, prompts, clues, or additional information, but rather ask the student to do so. When it is apparent that the student has guessed at an answer or knows the correct answer but is having trouble stating it properly, ask the student to justify or clarify their answer, this encourages deeper retrieval. For example, ask:

   "What else can you add?"

d. **Reverse Questioning.** Use the reverse questioning technique (answering a question with a question) to get students to think, make associations, and discover the answers to their own questions. The reverse questioning technique is good for exercising previously taught information and having students answer their own questions. For example, if the student asks:

   "Why did the Chief give that order?"

The instructor might respond:

"If you were in the same situation, what order would you have given?"

e. **Redirecting.** Use a redirected question to increase class involvement and provide recognition for students who are answering questions. A redirected question occurs when the instructor assigns a question asked by one student to another member of the class to answer.

NOTE: This technique should only be used if the instructor knows the answer and the instructor has reasonable assurance that the student to whom the question is redirected also knows the answer.

f. **Refocusing.** Use the technique of refocusing when expecting the student to relate a correct answer to another topic of interest. This technique helps students to consider the implications of their response within a broader framework by noting associations with other topics studied. An example of this is "How does the operation of a fire pump relate to firefighting systems?"

This helps students see the relationship between various sections of course material.

2.5. Instructor Responsibilities to Students. An instructor’s position provides a direct opportunity to influence student behavior. Whenever possible, instructors should offer praise and positive feedback to students who demonstrate punctuality, preparedness, engagement, and active participation throughout the course. Conversely, students who are consistently late, distracted, unprepared, disrespectful, lethargic, or frequently absent should receive appropriate counseling and guidance.

While instruction and leadership play significant role in shaping student performance with the formal training environment, other factors may also have an impact. Responsibilities related to military duties, as well as personal relationships with family members, peers, and friends, can influence a student’s ability to perform effectively. Recognizing these external influences helps instructors support students more holistically (figure 2-4).

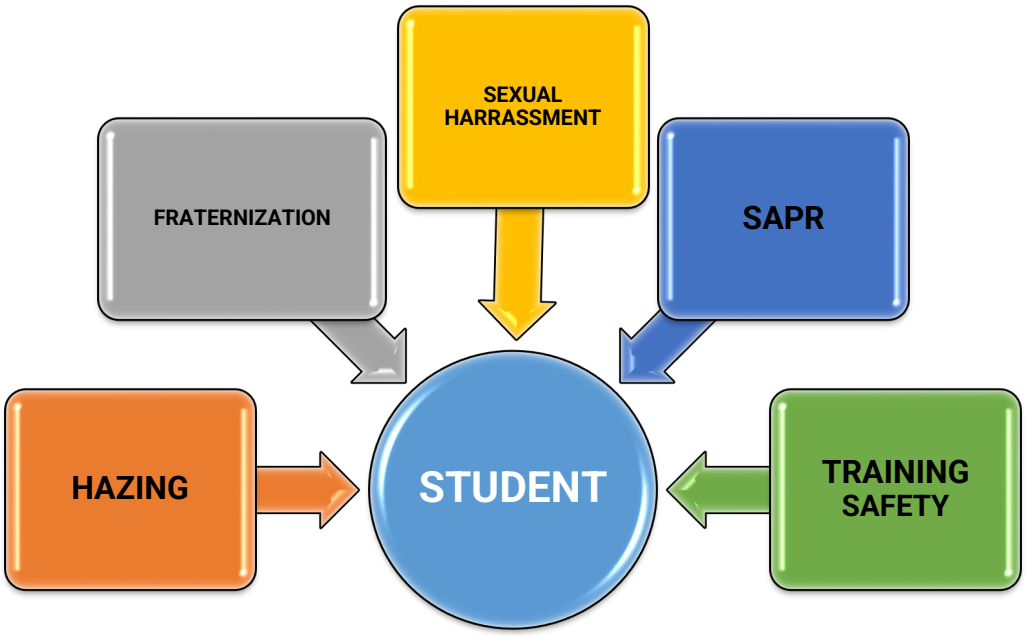

Figure 2-4: Influences on Student Performance

2.5.1. Hazing. Instructors must abide by the Navy's policy on Hazing. Hazing is defined in the Department of the Navy (DON) Policy on Hazing, SECNAVINST 1610.3, as "any conduct whereby a military member or members, regardless of service or rank, without proper authority, causes another military member or members, regardless of service or rank, to suffer or be exposed to any activity which is cruel, abusive, humiliating, oppressive, demeaning, or harmful." Hazing activities may be physical, verbal, or psychological in nature.

Traditional initiations or rites of passage have long been an integral part of the U.S. Navy. If properly supervised, these activities can instill esprit de corps, unit cohesion, and respect for an accomplishment of another Sailor. Nevertheless, care must be taken that such events do not involve hazing, whereby an individual is subjected to humiliating, demeaning, cruel, or harmful acts. Hazing is unprofessional, contrary to Navy Core Values, and illegal. The DON's policy is very clear. Hazing is prohibited and will not be tolerated. Reprisals against any victim or a witness to hazing are also prohibited.

2.5.2. Fraternization. Fraternization is a term that refers to personal relationships that disregard the boundaries of appropriate senior-subordinate dynamics. While it is often associated with officer-enlisted interactions, it also encompasses improper relationships and social engagements between instructors and students, as well as

among enlisted personnel, irrespective of their service affiliation, including members of foreign military services.

As an instructor, it's essential to understand the Navy's fraternization policy outlined in OPNAVINST 5370.2E, as well as the command's specific guidelines. Personal relationships that are overly familiar between staff/instructors and students in Navy training commands are not permitted. Instructor and student conduct align with the Navy's fraternization policy and embody the Navy's Core Values.

2.5.3. Sexual Harassment. Navy instructors must maintain high standards of conduct in dealing with all personnel, regardless of sex. Sexual harassment is unacceptable conduct that undermines the integrity of the instructor-student relationship. The Navy has a policy of zero tolerance of sexual harassment, per the SECNAVINST 5300.26E and individual command policy. Prevention of sexual harassment is the moral and ethical responsibility of all personnel. Instructors are in a particularly important position to prevent sexual harassment. They must take an active role in educating students on the seriousness of such behavior and immediately confront any conduct that may be construed as inappropriate. When confronted with inappropriate behavior, individuals often say they were only joking, or they didn't mean anything by it. Sexual harassment, real or perceived, is not a joke.

Creating a positive command/classroom climate, where behavior is professional and appropriate and where everyone in all areas of the chain of command treats his or her subordinates and peers with courtesy and respect, will do more than any other action an instructor may take to eliminate sexual harassment.

2.5.4. Sexual Assault Prevention and Awareness. Sexual assault is a criminal offense that the Navy firmly condemns. As a Navy instructor, it is crucial to familiarize yourself with all aspects of the Navy's SAPR program.

The instructor’s role is to foster a classroom environment that respects the dignity and safety of all students. Never allow crude jokes, sexist remarks, or any behavior that falls under the Continuum of Harm, as these can create a permissive atmosphere for potential offenders.

Make sure all students are aware of the Navy's SAPR policy, including the processes for making both restricted and unrestricted reports. Identify the local sexual assault response coordinator and victim advocate and ensure that their contact information is prominently displayed for reporting purposes.

2.5.5. Training Safety. Safety is a primary responsibility of the instructor. Safety and Occupational Health (SOH), and the High-Risk Training (HRT) Safety Program Manual,

NETCINST 1500.13F, is the policy document governing training safety. The Naval Safety Center has issued policies and procedures to eliminate or reduce the chances of mishaps or mishap-related injuries to students and instructors during training. This policy states that safety and supervisory procedures must be maintained at a level that ensures safe training, while providing the realism needed to fulfill Fleet operational requirements within practical limits. These procedures are essential to an aggressive training program that prepares personnel to perform professionally during both high-risk and normal activities.

Courses evaluated and identified as High-risk have additional instructor certification requirements, called Core Unique Instructor Training (CUIT). The CUIT identifies all qualifications, certifications, prerequisites, training, and licensing needed by a perspective instructor prior to assuming the duties as a HRT instructor. Instructors are responsible for conducting training in a safe environment, while motivating students to react as realistically as possible to all situations. In lesson introductions, always address safety information that applies to the lesson.

Never forget that the instructor is a role model for students. This is true in all aspects of training, especially training in safety. Instructor behavior often has greater impact on students than words, so in addition to training on proper safety procedures, instructors must also demonstrate them. For example, instructors must always wear and use safety gear in the prescribed manner. An instructor's greatest responsibility is the safety of the personnel they train. The safety habits they learn will go forward with them beyond the classroom.

2.5.6. Operational Risk Management. Operational Risk Management (ORM) is a continual process that includes risk assessment, risk decision making, and implementation of risk controls, which results in mitigation or avoidance of risk or acceptance of a certain necessary level of risk. Navy students are responsible for managing risk in all tasks. The instructor's responsibilities include identifying risks associated with the training, making the students aware of risk mitigation or controls, and supervising students during training to help ensure student safety.

2.6. Instructor Qualification and Certification Process. The instructor is the front-line representative of all Navy training. The Navy has developed a strong, standardized instructor qualification and certification process. The development of effective instructors is a process that includes classroom instruction, observation of experienced

instructors, lesson-plan personalization, and extensive practice instructing, all supported by ongoing guidance and evaluation.

After completing the Navy's formal training course or accepted equivalency, enlisted personnel will be awarded the NEC code 805A. However, it is understood that instructors will complete the instructor certification requirements for this NEC code at their assigned training activity. This accomplishment means the instructor is recognized throughout the Navy as a certified instructor with the appropriate level of technical expertise to successfully deliver an assigned course of instruction. Refer to Chapter 12 for more detailed information on the qualification and certification process.

2.6.1. Instructor Development Plan. An instructor development plan (IDP) is the instrument used to assist instructors in assessing their professional and technical competencies. Assistance is provided throughout the program, but ultimately, instructors are responsible for their own development. A critical part of instructor development is a well thought-out IDP.

An IDP can serve as an effective communication tool between an instructor and their mentor. It helps identify short-term goals related to certification, mid-term goals aligned with achieving a MTS designation (Chapter 13 covers more detailed information on MTS program), and long-term goals that extend beyond the current assignment and support broader career development within the Navy. A Navy instructor’s career should be viewed as a continuous journey of learning and improvement. Throughout this journey, instructors are expected to reach various milestones—some professional, others more technical or role-specific in nature. Setting clear goals is essential to becoming an exceptional instructor.

In collaboration with a mentor, the IDP provides a structured pathway to guide and support ongoing growth and development as a Navy instructor. IDPs have four steps:

a. **Step 1: Conduct a Self-Assessment:** Assess skills, strengths, and areas that need development. Reflect on current abilities. Review past evaluations and feedback received in class. Outline long-term career objectives. The competency assessment form will assess personal strengths and weaknesses.

b. **Step 2: Seek Opportunities:** Identify opportunities to prioritize development needs and a plan for completion.

c. **Step 3: Write an IDP:** Identify specific skills and strengths that need development, then define ways to obtain the specific skills and strengths

(e.g., courses, technical skills, podium time, and supervision). Identify and commit to a completion date.

d. **Step 4: Implement Your Plan:** Finally, complete the plan. Update and revise the IDP, as necessary, and participate in mentorship on a regular basis. A well-designed IDP will guide instructors effectively toward the achievement of important career goals.

CHAPTER 3
MANAGING A CLASSROOM

3.0. Introduction. The training environment dramatically impacts student learning. When students are distracted by conditions in the classroom, retention will inevitably suffer. The learning environment is the instructor's responsibility to control. Navy instructors are responsible for what happens in the classroom. This includes managing all factors that affect learning. The best-prepared lesson and the best instructional techniques will not be enough to engage students. If students are uncomfortable, learning will likely not occur.

A significant part of an instructor's job is the role of a coach mentor. Instructors must be prepared to coach students in learning situations and where there can be the difference between a student passing or failing a course. Instructors will also need to guide students through group activities and ensure the resolution of conflicts that may arise in the training environment. Therefore, it is important for instructors to know their responsibilities for managing the training environment and setting up the optimal classroom for the learning.

3.1. Instructor's Role in the Training Environment. As a Navy instructor, there are two primary roles and responsibilities for managing the training environment: Training environmental safety and classroom management.

3.1.1. Training Environment Safety. Safety is an integral part of all elements of the NETC mission. Safety and supervisory procedures must be maintained at a level that ensures safety while providing realistic and transferable training. It is the responsibility of the training command to ensure that safety is an integral part of training, that students are afforded a safe training environment, and that all personnel in the accomplishment of their mission observe sound safety practices.

In the Navy, the Safety program is governed by two primary documents:

a. Navy SOH Manual, OPNAV M-5100.23, which is the overall policy for all Navy activities

b. Navy SOH Program Manual for Forces Afloat, OPNAVINST 5100.19F, which deals with shipboard-specific safety concerns and protocols

While the OPNAVINST 5100.19F and OPNAV M-5100.23 are the primary instructions for Navy Safety, the OPNAVINST 1500.75D deals specifically with Navy training environments.

3.1.2. Safety Training Terms. Instructors must be familiar with the following terms concerning safety, which can be found in Policy and Governance for Conducting HRT OPNAVINST 1500.75D and NETCINST 1500.13F.

a. **Training Time Out:** Training Time Out (TTO) is used any time a student or instructor has nervousness concerning their personal safety (or that of another) or a need to clarify safety procedures. A TTO must be verbally signaled by yelling "training time out" and visually signaled by forming the letter "T" with their hands. Other hand signals can be used if deemed necessary. Signaling a TTO will stop the exercise immediately and the student will receive additional instruction (as appropriate). Training will not resume until the situation is returned to a safe state.

b. **ORM:** This program is aimed at managing but not eliminating risk while accomplishing the mission with a minimal amount of loss.

c. **HRT:** All basic or advanced, individual or collective training in a traditional or non-traditional environment which exposes the crew, staff, students, and assets to the potential risks of death, permanent disability, or loss during training.

d. **Emergency Action Plan (EAP):** An EAP is an internal plan that is to be implemented immediately after a mishap to aid involved people and to control and safeguard the scene. All commands and training environments must have a well-developed EAP, so instructors and students alike know what to do in the event of an emergency.

e. **Safety Review:** A safety review is a comprehensive review, conducted by training, safety, and medical personnel to ensure courses are being taught at minimum risk to students and instructors.

f. **Drop On Request (DOR):** When a student in a HRT course desires to DOR, the student needs only to make their intentions known. The student will be immediately removed from the training area.

3.1.3. Training Safety Roles. Training safety relies upon responsible behavior from both the instructor and students. Commitment to safety includes planning the environment and clear communications during the training. The instructor is expected to guarantee that training occurs only under safe conditions. Prior to conducting training, the instructor must ensure there are no safety hazards in the training environment, whether it is a classroom or laboratory. If any discrepancies are found, they are to be corrected before any training begins. Instructors can also ensure the

course is safe by reviewing safe training conditions using the appropriate technical publications, lessons learned from Fleet training mishaps, hazard recognition, and other sources deemed appropriate by the command.

Additionally, instructors are responsible for ensuring students are aware of and understand TTO and DOR procedures. Before starting training, instructors must always conduct safety overviews during the introduction of each lesson, including TTO, DOR, EAP, and muster locations. Instructors must also ensure the required number of instructors and safety observers are present for equipment and performance labs.

Students share responsibility for safety. Students must ensure they adhere to personnel and equipment safety precautions. If students notice any discrepancies, they are expected to report them to their instructor immediately. Students are to practice the basic rules of safety and signal a TTO if a procedure cannot be done safely. All Sailors are responsible for a safe working and training environment.

3.1.4. Training Safety Hazards. Each course and command will have many of their own specific safety hazards to be aware of for specific training situations. When arriving at a new command, instructors will check with the safety officer for the specific requirements at the learning site (LS). Even so, some safety hazards are common across multiple learning environments and apply to many Navy courses. The following is a list of safety hazards and precautions that instructors may encounter:

a. **Personal Protective Equipment (PPE).** Use of PPE is required in many classrooms and labs.

(1) **Eye protection.** Eye protective gear is mandatory in all eye hazard areas. In addition, if students are engaged in any activity using chemicals, molten materials, or where matter may be in the air, they must wear the appropriate level of eye protection.

(2) **Hearing.** Hearing protection is essential in many Navy occupations. Momentary and long-term exposure are both known to cause hearing damage. Always have students use hearing protection when required.

(3) **Respirators.** Respirators may be necessary during certain training evolutions. Ensure a proper fit test is conducted when required.

(4) **Foot protection.** Foot protection may vary among training events, but when required, ensure students have the appropriate footwear.

(5) **Other protective equipment.** Equipment such as face shields, hard hats, aprons, hand protection, or coveralls may be required.

b. **Hazardous Materials (HAZMAT).** Some training events may require the use of HAZMAT. Follow all guidance in the appropriate safety data sheet. This is critical because most injuries associated with HAZMAT are due to human error.

c. **Waste disposal.** Training may generate waste. Comply with local guidance for disposing of waste that is hazardous to health and poses environmental safety risks.

d. **Electricity.** When working with electricity, provide students with a comprehensive set of guidelines. Ensure students are always supervised when engaged with electricity.

e. **Compressed air.** When using compressed air, use appropriate eye, hearing, and respiratory protection.

3.1.5. High-Risk Training. Instructors may be designated for HRT courses, which include, but are not limited to: board search and seizure, survival (aviation, water, land), parachuting, firefighting, damage control, jungle and desert training, small arms, law enforcement, physical security, disaster preparedness, blasting, diving, explosive ordnance disposal, basic underwater demolition, improvised explosive device defeat, sea-air-land operations, aircrew survival, and rescue swimmer training.

For high-risk courses, a CUIT document will be provided, outlining all qualifications, certifications, prerequisites, training, and licensing required for instructors before they begin their roles.

Safety is critically important in these training environments. The following guidelines must be adhered to for HRT:

a. **Assess Training Hazards:** Evaluate courses to determine if they qualify as high-risk. If so, submit recommendations to higher authority.

b. **Verify Student Prerequisites:** Confirm that students meet all administrative and physical prerequisites for HRT, including the NETC 1500/5 (High-Risk Student Medical Screening Form). NETC 1500/5 can be access at https://www.netc.navy.mil/Resources/NETC-Directives/#netc-forms.

c. **Ensure Equipment Maintenance:** Maintain all equipment used in HRT and keep records for three years.

d. **Follow Approved Curricula:** Conduct HRT strictly according to approved course curricula, ensuring it meets graduation criteria and training requirements. Include related ORM training as necessary.

e. **Conduct Safety Reviews:** Perform an annual safety review of all formal training courses and retain records for three years.

f. **Physical Training Standards:** Adhere to the physical training standards set by the training agency. Physical fitness is essential for many HRT tasks. Instructors can find information on physical readiness requirements in OPNAVINST 6110.1K, Physical Readiness Program.

For more details, refer to OPNAVINST 1500.75D, Conducting HRT.

3.1.6. Emergency Action Plan in High-Risk Training. An EAP will be the guide if a mishap occurs during training. EAPs must be activated in the event of any injury, mishap, or emergency. Instructors must review EAPs monthly.

The EAP must include the following as required:

a. Primary and alternate communications.

b. Telephone numbers of chain of command, emergency response activities, and essential personnel.

c. Applicable radio channels and call signs.

d. Locations of emergency response personnel.

e. Location of emergency equipment, such as first aid kits, fire extinguishers, and other emergency equipment as determined by the training requirements.

f. Equipment emergency shutdown procedures.

g. Muster location(s) for essential and non-essential personnel.

h. Methods to maintain control of the scene and any non-affected personnel.

i. All immediate emergency procedures.

j. Line drawing or aerial photo of the training area(s) or facility with all the locations identified for medical response personnel and equipment, emergency-stops, alarms, fire extinguishers, telephones, radios, muster locations, emergency medical services entry points, etc.

For more information, see NETCINST 1500.13F.

3.1.7. High-Risk Training Management Roles. In HRT courses, there are three primary roles in the management of the course: the Curriculum Control Authority (CCA), Course Curriculum Model Manager (CCMM), and the Learning Standards Officer (LSO).

a. **The CCA and CCMM:**

(1) Review, approve, and distribute CUIT for all high-risk courses based on current NETC HRT safety programs.

(2) Conduct HRT safety evaluations annually.

(3) Ensure all safety training and requirements are provided to those personnel who require it.

b. **The LSO is responsible for:**

(1) Documenting training safety requirements.

(2) Student management requirements.

(3) Periodic reports.

(4) Analysis of student feedback.

3.2. Classroom Management. Effective classroom management begins with the preparation of the physical classroom/training space. The instructor is responsible for considering ways to enhance the learning environment to effectively assist and monitor students' learning, while making them feel as comfortable as possible. Seating arrangements within the learning environment affect group dynamics, so arrange the classroom to optimize interaction with and between students. The position of the instructor in relation to the learners is important in each arrangement. Whether a classroom, auditorium, or field laboratory, adapting class settings to meet instructional needs can enhance communication between you and the students, as well as between the students and you – the instructor.

3.2.1. Classroom Configurations. Classroom seating arrangement is an essential component of creating a successful learning environment. Often, the classroom configuration will have been determined during the design phase to optimize the instructional method. There are various types of classroom settings, but the following are common ones used in Navy training (Figure 3-1).

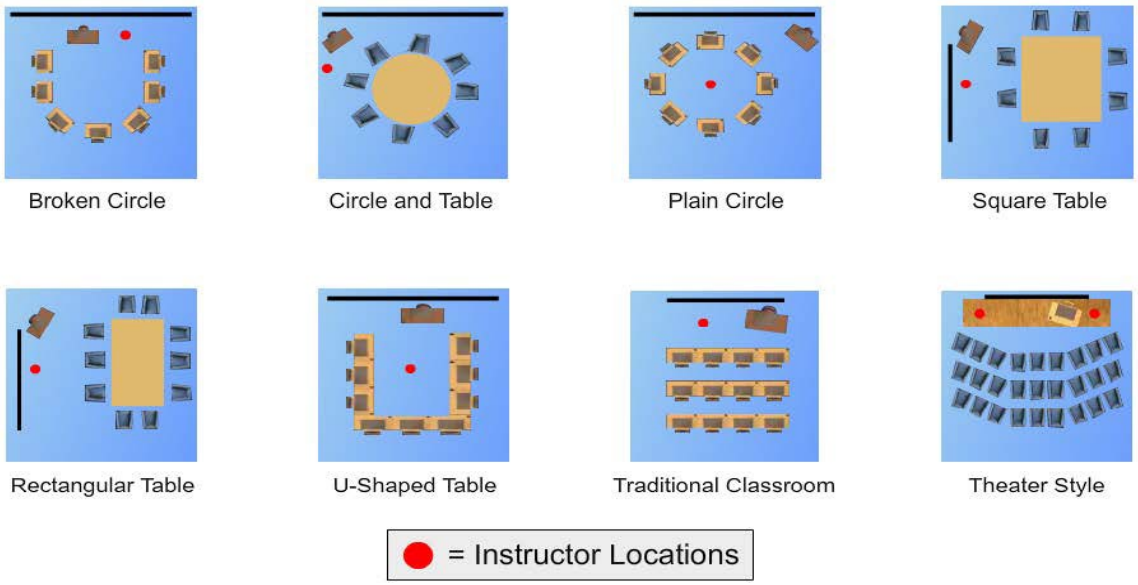

Figure 3-1: Classroom Seating Arrangements

a. **Circle Shapes.** Circle configurations encourage effective class discussions because they allow for student-to-student and instructor/facilitator-to-student interaction. The instructor/facilitator can be the focus, and when necessary, then easily pass the discussion to the students. Instructors/facilitators may use a circle shape configuration for small group discussions, lectures, guided discussion, seminar, and case-study learning activities.

(1) **Plain circle.** A plain circle of chairs is often used to foster an intimate relationship between participants in which they can interact in a friendlier and more collaborative setting. This arrangement has no physical setting for an instructor and creates equality of participation. Plain circles are good for group discussions as there are no physical barriers, such as desks and tables, between the learners.

(2) **Broken circle.** The broken circle configuration is used by many instructors because it offers the advantages of the plain circle yet affords a measure of control. This arrangement allows for a chart pack or easel and a standing instructor. This allows the instructor to more easily step into the circle, interject, and manage the discussion.

(3) **Circle and table.** The circle and table combination takes advantage of the circle's informal aspects but gives participants a place to put papers and books. The table also removes the sense of vulnerability some feel in a plain circle of chairs. Studies show that when the same people sit at a

round table rather than in a circle of chairs only, they participate more in the session. A round table with chairs is also an equalizer as there is no "Head of Table" position.

b. **Tables and Chairs**

(1) **Square Tables.** Square tables are the first full step toward a formal meeting arrangement. They are often used when there are multiple sides to be presented such as in a debate. Research indicates that a solid square table seems to encourage conversation across the table.

(2) **Rectangular Tables.** At a rectangular table, no one can see the faces of all the people at the ends of the table, whom participants expect to control the interaction. Rectangular tables can be effective for some kinds of training sessions, but they highlight the tensions felt by two sides always facing each other. This configuration is popular for seminars.

(3) **U-Shaped Tables.** A U-shaped table gives everyone the sense that they are equal to one another. This layout, however, gives the opening in the U a position of power and can provide space for someone at a chart pack or easel to take notes or serve as a recorder, or for the instructor to interject.

c. **Traditional Classroom.** For years, conferences have relied on the traditional classroom style for training. This arrangement gives instructors (especially if they stand on raised platforms) a lot of control of the learning environment. The traditional classroom arrangement accommodates many in a small room and is effective for one-way communication – such as delivering a lecture. Classrooms with rows and columns of desks facing the instructor and the whiteboard are effective for one-way and limited two-way communications. An added benefit is that it makes it hard for learners to talk to anyone except those seated beside them. Traditional classroom arrangements are also good for administering tests.

d. **Theater.** For large groups where one-way communication is planned, a theater setting is effective. A theater arrangement is appropriate for lecture or large-scale multimedia activities. Theater or auditorium seating is used when the planner wants to maximize the number of participants in one room and deliver a lecture. This arrangement is good for lectures but is not a good arrangement for stimulating group discussion or participation.

e. **Laboratory.** Laboratory arrangements accommodate equipment, activities, and simulations, so instructors must select a laboratory space for practice or

application of concepts and procedures. Laboratory spaces include electronic classrooms (ECR), simulators, scientific experimentation areas, live application areas, and team-dimensional training spaces. Since laboratory spaces are typically designed around equipment, instructors may need to adapt their instructional style to the pre-arranged space.

f. **Free Form.** Free form arrangements are designed to create areas for small groups, activity stations, workshops, and unique requirements that are content driven, student-centered, or necessary to overcome physical barriers, such as poles or equipment. Instructors must use a free form learning space if they anticipate a variety of interactivity or need specific relationships developed for the learning activities, such as role plays, gaming, group projects, and cooperative learning.

3.2.2. Classroom Setup. An instructor is responsible for ensuring their classroom is set up for the equipment required for training. When setting up for audiovisual presentation, consider the following guidelines to ensure the students can see the IMM:

a. The distance from the screen to the last row will not exceed six screen widths.

b. The distance from the screen to the front row will be at least twice the width of the screen.

c. The proper width of the viewing area will be three screen widths.

d. No one will be more than one screen width to the left or right of the screen.

Room dimensions are a major consideration that goes into the design of a classroom. Ceiling height is an important factor that requires consideration. The minimum requirement is nine feet, which is required so that the last row of students can view the screen over other students.

3.2.3. Electronic Classroom. ECR refers to a digital learning environment that uses technology to facilitate education and training. It often incorporates various tools such as online resources, multimedia presentations, interactive modules, and communication platforms to enhance the learning experience. Refer to NAVEDTRA 140C, Training Support Management Manual for ECR resources and definitions.

In an ECR, instructors can deliver content remotely or in a blended format, allowing for flexible access to materials and participation. This approach can improve engagement, collaboration, and accessibility for students, making it easier to accommodate different learning styles and paces.

ECRs are commonly used in military training, corporate training, and educational institutions to support both synchronous (live) and asynchronous (self-paced) learning.

3.3. Coaching. Coaching is the key mechanism for rapport establishment and partnership-building. It provides the instructor with the opportunity to influence students to change undesirable behaviors or to motivate and to reinforce behavior that is desirable. Coaching is generally structured in a way that the coach-learner relationship ends when a particular knowledge or performance goal is achieved. Coaching is focused on job performance. Because of this, instructors may serve as coaches only if they possess the desired technical knowledge and competence.

Coaching serves a variety of functions. It helps build a relationship where an instructor (coach) provides technical support focusing on the development of learners. Coaching also establishes a form of development in which a person called a coach supports a learner in achieving specific goals by providing training and guidance. Coaching maximizes the learner's potential by working on their perceptions, self-confidence, and motivation by:

a. Providing feedback.

b. Correcting deficiencies.

c. Enabling the development of skills and abilities.

d. Improving performance.

3.3.1. Types of Coaching. Coaching can be formal or informal. Choosing a formal or informal approach depends on which option is a better fit for the command's mission and goals.

a. **Formal Coaching.** Formal coaching is used explicitly and takes place during scheduled appointment times (in the instructor’s office or designated area). Formal coaching discusses performance deficiencies, problems, solutions, processes for growth, and goal setting. This also requires commitment to the process and an established end goal. The clear parameters of formal coaching demand that both the instructor and learner spend most sessions in coaching mode (with the learner doing most of the talking and the instructor primarily engaged in listening, asking questions, and giving feedback).

b. **Informal Coaching.** Informal coaching can occur every day in conversations in a classroom or a performance environment, and this can be either prompted or spontaneous questions and discussion initiated by the student. Unlike formal coaching, informal coaching has no set start or end date. Instead, it is an ongoing process in which the coaching conversation

becomes open-ended. Instructors may adapt informal coaching as a management style when providing feedback to the learner. Always remember feedback needs to be constructive.

3.3.2. Coaching Responsibilities. The coach's responsibility is to help learners reach their full potential. Before starting the coaching process, discover and clarify what the learner wants to achieve – it all goes back to goal setting and deciding how the instructor can motivate them. This is essential to ensure both the instructor, and the student are on the same page in the coaching (and learning) process. During the coaching process, coaches will share their expertise and experiences. However, coaches must also respect job experience. If a coach does not respect the learner's job experiences, this can discourage the learner and make them feel inferior. Remember instructors want to avoid giving off the impression of a superiority complex. Coaches will also encourage learner's self-discovery, and learner-generated solutions and strategies. Another key responsibility of a coach is to hold the learners responsible and accountable for those solutions, remember to be a facilitator and not a babysitter.

3.3.3. Coaching Techniques. Coaches will customize their approach to learner needs. Consider the following coaching techniques:

a. Seek to elicit solutions and strategies from the learner instead of providing them with solutions and strategies.

b. Believe learners are naturally creative and resourceful – with new ideas.

c. Provide support to enhance the skills, resources, and creativity of the learner. Make them think and consider all avenues.

3.3.4. Coaching Feedback. Coaching feedback will vary depending on the situation. However, there are two methods of feedback that are very common: positive feedback and constructive feedback.

a. **Positive Feedback.** Positive feedback is praise for the behavior that you want to reinforce. Think of this as positive reinforcement. Positive feedback is used when the learner's actions or thoughts are in line with the coaching provided, and behaviors repeated. When a student performs correctly, the instructor should acknowledge it and provide positive reinforcement.

b. **Constructive Feedback.** Constructive feedback identifies shortcomings for the means of correction. Constructive feedback must never insult, belittle, or discourage the learner. Instead of criticizing the student, work with them to create solutions and correct the behavior you wish to change.

3.4. Group Dynamics. The instructor may be required to break the class into small groups for discussion, case study, and other assignments. Understanding the basics of group dynamics, which is the study of how people in groups work together, will help guide student group management to be effective and productive. The key to effective group dynamics is establishing a process for groups to follow to solve or prevent problems that may arise from different expectations, incorrect assumptions, or lack of experience. The following practices will aid in preparing for group activities:

a. **Set goals.** Goals help students create structure and benchmarks. Periodic reviews of goals guide progress and establish reference points that will help struggling students.

b. **Make a plan.** Structure activities to assign specific responsibilities to each student. Stick to the IG and make students stay on task with their assigned activities.

c. **Assign roles.** Roles will be defined so that specific responsibilities are delegated appropriately during activities – there will be no confusion.

d. **Communicate clearly.** Speak with clarity and directly to the facts and encourage students to do the same. Remind students that careful and active listening is critical to effective communication.

e. **Model and encourage ideal behavior.** Initiate discussions, seek opinions, offer suggestions, clarify as needed, encourage timeliness in assignments, summarize, test for agreement, act as the gatekeeper for discussions, avoid digression, resolve differences, express a group's feelings, set standards, reference facts, and give praise and correction with equal fairness.

f. **Define procedures.** Encourage the use of standard procedures and group decision making.

g. **Balance participation.** Watch for too much or too little participation among students.

h. **Establish rules.** Work with students to establish ground rules for what will be defined as acceptable and unacceptable behavior. These will include norms such as time limits, adhering to discussion topics and tasks, and not interrupting speakers, among others.

i. **Stay engaged.** Be sensitive to nonverbal cues and see, hear, and feel the group dynamics in the classroom. Address problems as they occur, and make sure to address the concerns immediately.

j. **Use facts.** Ensure the use of facts and data before making group decisions. Make sure that group decisions and presentation of materials are based on facts and not on unsupported conclusions or faulty research.

Managing students within the group will help to ensure the group session is productive. Some of the types of students to watch for in group dynamic and training strategies to counter those behaviors are listed in Table 3.

Table 3: Student Group Dynamics

Type of Student	Student Characteristics	Effect on Training	Training Strategy
Domineering	Takes over group discussions and activities.	Student takes too much class time for very little effect.	Stick to the IG. Set class time limits for discussion. Instruct students to write questions or thoughts for study periods.
Reluctant	Unwilling or hesitant to participate.	Student may not contribute to class projects causing resentment.	Structure activities to assign specific responsibilities teach student. Let students know they will be called on in turn.
Wandering	Roams from topic to topic, without regard to lesson topic or training value.	Student may seriously jeopardize training by wasting contact hours by going off-topic.	Stick to the IG. Give the class a time out signal to stop tangents. Redirect the discussion.
Rushing	Wants to complete a task before sufficient preparation or discussion occurs.	Student may lose preparation and training time and may also discourage student participation.	Have students document their preparation and discussion. Provide reasons why rushing counterproductive.
Overbearing	Similar to a domineering student but, usually	Student stifles the participation of other students, usually with negative comments.	Call on other students. Ask the overbearing student to participate in small segments

	unpleasant and negative.		and remain quiet for the remainder.
Floundering	Struggles to get through assignments.	Student groups typically do not plan or structure their assignments.	Help students create a structure. Ask students to review their progress and assess how they will accomplish their goals.

3.5. Five Stages of Team Development. The Five Stages of Team Development, also known as the Tuckman model, is a model for team maturation. The five stages are:

a. Forming

b. Storming

c. Norming

d. Performing

e. Adjourning

When developing a team, it helps a great deal to have some basic sense of the stages that a typical team moves through when evolving into a high-performing team. Awareness of each stage helps leaders to understand the reasons for members' behavior during that stage, and to guide members to behavior required to evolve the team into the next stage.

When evaluating teams, remember that the stages of team development are not definite. A team can move through stages from start to finish, or they may enter some stages more than once. Other things may influence how the stages are moved through also, such as losing or gaining a team member.

a. **Forming.** The first stage of team development centers around team member's past behaviors. When starting a new team, team members may not know whether they have a team or the other team members, therefore they rely on past behaviors to remain safe and away from controversy. Many tend to be extremely polite and look to the team leader for guidance and direction to try to avoid controversy and keep things safe and harmonious. Members will also begin to test their boundaries and explore similarities and differences among themselves and orient themselves toward the exercise in which they've been assigned to participate. Members can feel many emotions, including pride, anticipation, fear, and impatience, among many other emotions.

b. **Storming.** This is the most difficult stage of the team development process for all members involved. Progress through this stage may determine success or failure of the team exercise. Team members begin to analyze the task they must do and begin to react if it is not what they expected. Some members may panic and be hostile or defensive. The team tries to find a way to achieve the task, but there are many perspectives and potential paths to achieving the outcome. This results in disagreements and power struggles within the group. How these are handled will be critical to how the group performs. During this stage, boundaries are tested, and power struggles or conflicts may develop. Cliques, or smaller groups within the group, may form. Members may decide to remain silent during decision making, while others may try to assert their opinions onto the group. To proceed from this stage to the next, team members must be willing to compromise. They may have to give up personal preferences in favor of the betterment of the whole group. They also need to actively listen, be non-defensive, communicate with others in a positive way, and be willing to influence and be influenced. Otherwise, the team will not progress from this stage.

c. **Norming.** Unfortunately, many teams do not even make it to this stage. Without positive relationships that develop in the forming and storming stages, or conflict resolution, the team’s ability to work together may be compromised. During this stage, teams have worked through power struggles and emotional conflicts. They settle into ground rules and cooperation and understanding occurs as they execute the task at hand. The outcomes and direction are agreed to and owned by members. The team's confidence begins to build and team members feel included instead of discounted.

d. **Performing.** If teams reach this stage, some do not, their capacity, range, and depth of personal interactions make them more independent. The team has now settled its relationships and expectations. Work output is high, as the team can execute. The need for leadership intervention at this stage will be minimal.

e. **Adjourning.** Once the project or initiative comes to an end, teams can find it hard to realize that it is over. Teams need to recognize the accomplishment of their goals. Teams will disband when their work is completed. The following elements will be part of good closure:

(1) A debrief that evaluates the team's work.

(2) Key lessons learned.

(3) A review of the team's strengths and weaknesses.

(4) A discussion of major roadblocks that stood in the way.

(5) A celebration of the team's efforts.

3.5.1. Instructor Role in Team Development. The Navy Instructor's role in the team development process will probably be that of the team leader or coach. The instructor is the role model and must remain in control always. For each phase during training evolutions, instructor responsibilities as a team leader could include the following:

a. **Forming:** Instructors may be asked to help prepare for the activity and orient the team to the task.

b. **Storming:** During this phase instructors will observe the team's performance to analyze problems and identify solutions. This will be the most difficult phase of the team building evolution for all members. Instructors will take note of team inter-relationships and performance techniques.

c. **Norming:** The team will begin to work together. Instructors will guide the team toward improvement in the areas of deficiency that are noticed as they execute.

d. **Performing:** After the team has mastered the required skill, instructors will evaluate the team's final performance by using a total assessment for the exercise.

e. **Adjourning:** After the training evolution is complete, instructors will debrief the team and help celebrate their accomplishment. Instructors will then document their achievement.

3.6. Conflict Management. A classroom comprises diverse personalities and values, making conflicts inevitable. However, conflict will not be avoided; it can be beneficial. Engaging with different perspectives fosters healthy idea exchange, enhances class energy, and stimulates creativity.

3.6.1. Danger of Groupthink. Groupthink occurs when a class collectively endorses an idea to avoid confrontation, even if some members have reservations. This can lead to poor outcomes for group activities. To prevent groupthink, encourage brainstorming of alternative ideas and create an environment where respectful disagreement is valued. It is essential to know how to address these dynamics in the classroom.

3.6.2. Common Responses to Conflict. Conflicts call for a response from the class and instructor. Students and instructors use different methods for handling conflict in the classroom. Some common responses include:

a. **Avoiding:** This involves steering clear of both the issue and the individual involved in the conflict. While this can be useful when resolution seems unlikely, it may also lead to groupthink.

b. **Smoothing:** This approach minimizes the conflict to maintain class harmony, often at the expense of personal opinions and goals. It can be effective for minor issues or when resolution seems unlikely.

c. **Forcing:** This strategy involves imposing one's views on others, which may escalate the conflict and resurface later. Forcing can be appropriate when quick, decisive action is necessary, but it may foster resentment among students.

d. **Compromising:** This method seeks to find a middle ground where each party gives up part of their desires. While this can lead to a resolution, it might result in low satisfaction if neither party fully achieves their goals.

e. **Problem Solving:** Also known as collaboration, this approach aims for a solution that satisfies everyone's needs. Clear communication is crucial for success, and this method is most effective when there is sufficient time to resolve the conflict.

3.6.3. Dealing with Classroom Conflict. Most conflicts can be minimized by establishing and enforcing ground rules and class norms for group discussions. When conflicts arise, it's crucial to neither overreact nor underreact. With experience, you'll learn to discern when a conflict provides a necessary break and when it becomes disruptive. Be prepared with a range of responses tailored to the specific situation, as preparation is essential.

3.6.4. Conflict Intervention Levels. There are various levels of intervention for managing conflict in the classroom:

a. **Non-Intervention (None):** If the behavior is not chronic and does not disrupt the entire class, instructors can choose to ignore it.

b. **Informal Counseling (Minimal Intervention):** Have a private conversation with the disruptive student to understand their perspective and ask what could enhance their participation and satisfaction. Offer constructive feedback as needed.

c. **Impersonal Class Time (Low Intervention):** At the start of the class period, discuss general class norms without pointing out individual students.

d. **Formal Counseling (Medium Intervention):** Like informal counseling, but with a more assertive approach. This may involve creating a documented contract outlining agreed-upon changes in behavior, with other members of the course's chain of command present.

e. **Formal Drop from the Course (High Intervention):** If a student's behavior does not improve after exhausting lower intervention levels, dismissal from the course may be necessary. The students will return to their parent command and will not receive credit for the course. See NAVEDTRA M-142.4 Volume II for more information.

3.6.5. Constructive Feedback Techniques. Giving and receiving constructive feedback is a vital skill when addressing student issues. Students may react defensively, so preparation is key. To ensure feedback is constructive:

a. **Explain the Need for Feedback:** Clarify that the feedback aims to enhance class performance.

b. **Give Both Positive and Negative Feedback:** Regularly acknowledge good work to ensure students are receptive to criticism. A balanced approach fosters a positive atmosphere.

c. **Understand the Context:** Provide feedback within the right context, focusing solely on the issue at hand (the specifics of where, why, and how the event occurred).

3.6.6. Guidelines for Providing Feedback. When deciding whether to give feedback, consider the following:

a. Avoid feedback before understanding the situation.

b. Don't give feedback if you can't monitor progress (except in safety issues).

c. Refrain from providing feedback if the student has no power to change their behavior.

d. Avoid feedback aimed at embarrassing the student.

e. Choose an appropriate time and place (avoid public settings).

f. Steer clear of giving feedback if emotions are running high for either party.

3.6.7. Structuring Constructive Feedback. When delivering feedback, use the following "I" format to foster a supportive, non-confrontational environment:

a. "**When you...**(Describe the behavior without judgement.)

b. **I feel...**(Describe how the behavior affects you or the class as a whole.)

c. **Because I"...**(Describe why you are affected in that way.)

After addressing the issue, pause for discussion. Then express the desired change using this format:

a. **"I would like...(**Describe the suggestion for change.)

b. **Because...(**Describe why you think the change would alleviate the problem.)

c. **What do you think?"** (Listen to the response and be prepared to consider options and compromises.)

3.6.8. Example of Feedback Delivery. For instance, the instructor might say to a disruptive student:

a. "**When you** disrupt the class with unconstructive comments, **I feel** frustrated that you are wasting both my time and your classmates' time, **because I** have spent a lot of time preparing for this lesson and the topic is very important to your training."

b. Pause for discussion.

c. "**I would like** you to hold your comments until the end of the class **because** holding your questions to the end of class will help your classmates learn the material without interruptions. Developing constructive comments might also help your classmates learn the material better, as well. What do you think?"

CHAPTER 4
MOTIVATION

4.0. Introduction. Motivating students to learn is possibly one of the most pondered and discussed areas among people involved in the education and training of others. How to get students interested and involved in the learning process has long been one of the greatest challenges for instructors. Motivation involves the activation, direction, and persistence of a specified behavior. While students are responsible for their own learning, you can greatly enhance their desire to learn by creatively using motivational techniques. In the educational sense, motivation is the process of prompting a person to learn. The majority of students will respond to general methods of motivation. Some, however, may need you to provide appropriate incentives for them to learn. Therefore, you must learn to recognize their needs and drives.

Generally, all behavior is motivated. The goal of instruction is to motivate students to achieve course objectives. Instructors sometimes mistakenly believe that a student who is not participating in classroom activities or finishing homework assignments is not motivated. Strictly speaking, the student is not motivated to behave in the manner desired by the instructor. A great deal of study has gone into finding what motivates learners. Despite varying levels of personal motivation, most people will respond to certain conditions with increased motivation to learn. The instructor must do everything within their power to establish the most desirable conditions possible to impact on a positive learning environment. This chapter provides background information on the principles of motivation and offers some practical techniques for instructors to use in the motivation of their students.

4.1. What is Motivation? Motivation is a critical factor in the learning process. If two students, one motivated and one unmotivated, are given identical training under identical conditions, the one who is motivated to learn will far surpass the unmotivated one in performance. Motivated students are more likely to pay attention in class and perceive the material as valuable, which will boost their acquisition of knowledge and set them up for success.

To understand how to motivate learners, we must first understand what the term “motivation” even means. Motivation helps learners engage with the training material and environment to mentally organize and integrate information into cognitive processing that is central to deeper learning. Motivating others is about getting them to move in the direction you want them to go to achieve a result. The reasons people are motivated vary greatly from person to person. People will be better motivated if their work experience satisfies their social, psychological and economic needs. In the

workplace, motivation is increased when the people are given opportunities to develop and use new skills and abilities in interesting and challenging work. The same is true for students. Instructors must explain to them why the material is important, what they will get out of the instruction, and how the material will help them reach their goals in the Fleet. This is why it is so important to bring enthusiasm and a breadth of knowledge and experience working in the field to the classroom.

4.2. Types of Motivation. There are two types of motivation, extrinsic and intrinsic motivation (Figure 4-1).

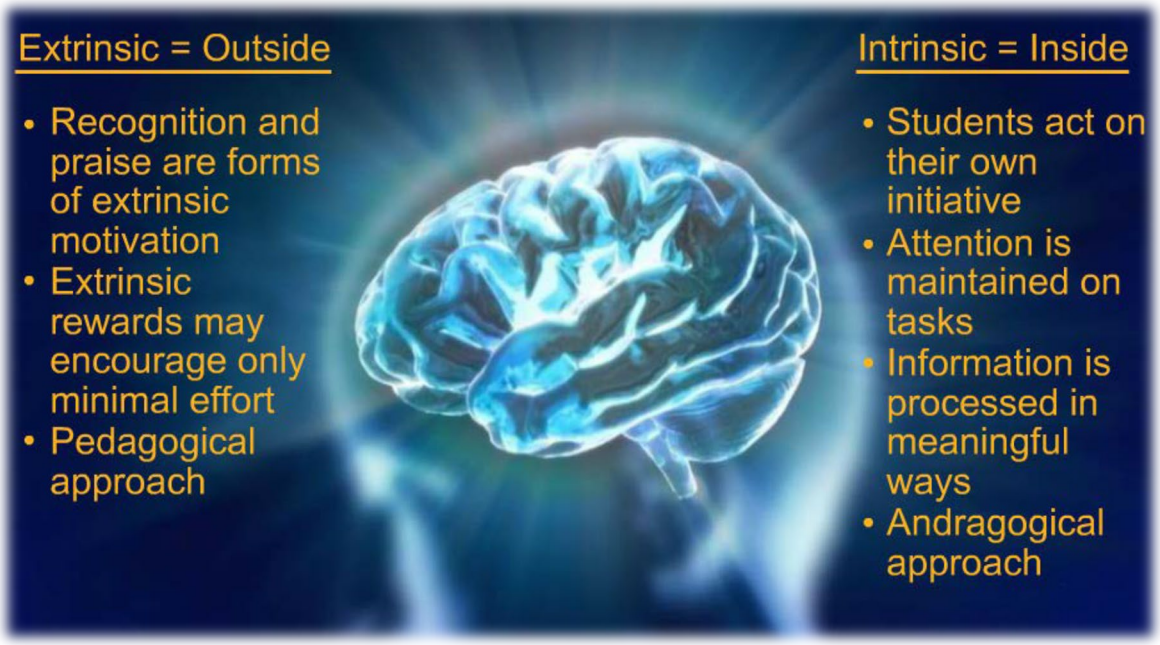

Figure 4-1: Intrinsic Versus Extrinsic Motivators

a. **Extrinsic Motivation.** Extrinsic motivation comes from outside the individual or external sources. Recognition and praise are forms of extrinsic motivation instructors can offer to students to prompt success in the learning process. However, extrinsic motivational rewards may encourage students to exert only minimal behavior and cognitive effort to execute a task successfully. Another weakness of extrinsic motivators is that students may stop their efforts when the reinforcement reward ceases. This is known as the pedagogical approach and is commonly associated with teaching children. Some examples of extrinsic motivators include money (selective re-enlistment bonuses (SEB)), advancement, NEC Codes, certificates, and liberty.

b. **Intrinsic Motivation.** Intrinsic motivation refers to motivation that comes from within the individual and not the external environment. Intrinsically motivated individuals act on their own initiative, maintain focused attention on tasks, and process information in deep and meaningful ways that will contribute to more meaningful learning. For example, a student does additional research on a topic without having to be assigned or prodded. Adults are motivated to learn as they experience needs and interests that learning will satisfy. This is known as an andragogical approach and is associated with adult learning. Some examples of intrinsic motivators include knowledge satisfaction, pride, and subject matter expertise.

Intrinsic and extrinsic motivation does not have to be an "either/or" situation. Some students are motivated by both intrinsic interests and extrinsic rewards. Regardless, students need to know what they will be getting out of the instruction. If they perceive that the instruction will help them reach their goals, they will be more motivated to learn.

4.3. Motivation Theory and Principles. Psychologists use the concept of motivation to account for changes in the frequency and the vigor of a person's activities in an activity or the pursuit of a goal. Outcomes that give rise to pleasant feelings will be pursued; those that give rise to unpleasant feelings will be avoided. While motivation cannot be observed directly, its effect on behavior can be observed.

For example, when we see a person actively and enthusiastically engaged in an activity and pursuing a goal, we often refer to that person as motivated. On the other hand, when we see a person who makes only a half-hearted effort, we might say that person is unmotivated. In both cases, we connect the outward and visible effort to intrinsic motivation.

Many theories of motivation provide insight into how instructors can use strategies to motivate learners to meet instructional goals. Two of these theories are John Keller's Attention, Relevance, Confidence, and Satisfaction (ARCS) Model of Motivation and Abraham H. Maslow's Hierarchy of Needs Theory.

4.3.1. Keller's Attention, Relevance, Confidence, and Satisfaction Model of Motivation. In John Keller's "ARCS" Model (Figure 4-2), there are four principles in the motivation theory Attention-Relevance-Confidence-Satisfaction. The ARCS model is widely used in educational settings, training programs, and instructional design to create motivating and effective learning experiences (Keller, 1987).

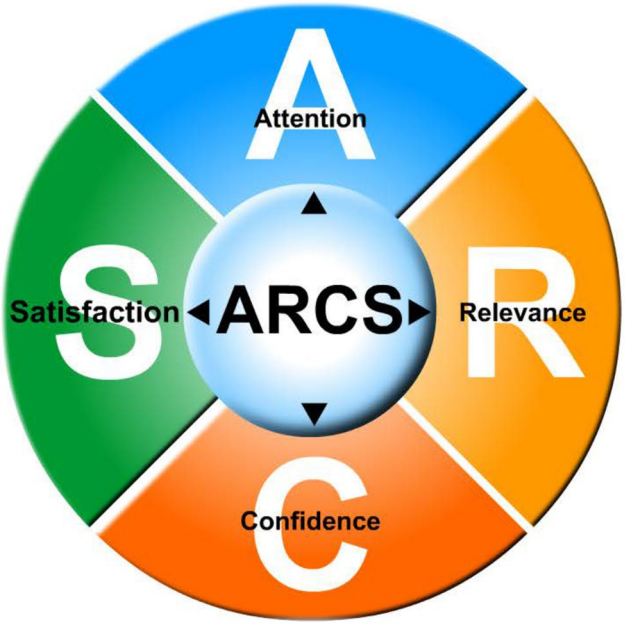

Figure 4-2: Keller's "ARCS" Model of Motivation

a. **Attention.** Attracting attention is an important first step, but don't be fooled. Learners will certainly pay attention if the instructor does something surprising, like blow a boatswain's pipe. But unless what instructors do next is relevant to them, the instructor will not keep their attention, and they are unlikely to learn what follows. Learners must think about what they hear, see, or do to optimize learning; it is the first piece to learning of any new information. Vivid descriptions of relevant sea stories or questions posed directly to the learner are among the best strategies to capture their attention and focus their thinking (Keller, 1987).

b. **Relevance.** Relevance motivates students by connecting what they are learning to what they will be doing on the job. When they see the relevance, they are more likely to engage with the content and exert the effort it will take to understand and apply what is being taught. It helps them know they "why" (Keller, 1987).

c. **Confidence.** When students feel confident that they can do something competently, they are more likely to give it a try with an optimistic and motivated disposition. Instructors can guide learners by helping them set challenging but achievable goals, building their confidence, and helping them become aware of the connection between their effort and success (Keller, 1987).

d. **Satisfaction.** Feeling good about an experience often serves as its own motivator. Some tasks are rewarding in themselves, and students will stay motivated until they achieve their goals. Other times, recognition from others contributes to their sense of satisfaction and serves as an external positive reinforcement that will contribute to them feeling a sense of satisfaction that their hard work is being recognized. The instructor can increase learners' satisfaction by creating opportunities for them to succeed, maintaining high standards, and recognizing students' attainment of those standards (Keller, 1987).

4.3.2. Maslow's Hierarchy of Needs Theory. Abraham Harold Maslow was an American psychologist who created Maslow's Hierarchy of Needs, a theory of psychological health that describes meeting human needs in an order of priority, culminating in self-actualization, or reaching one's full potential.

Simply stated, Maslow's theory proposes that individuals will seek to gratify higher-order (growth) needs only when all lower-order (deficiency) needs have been relatively well-satisfied. Based on Maslow's Theory, people are driven to satisfy unfulfilled needs in a specific order. Deficiency needs include physiological, safety, social (belongingness, love), and ego needs. Maslow's growth need includes self-actualization (realization and fulfillment of one's own potential), and desire for knowledge and understanding of themselves (Figure 4-3).

The implications of this theory to the training environment are quite intriguing. As the instructor, you control what takes place in the classroom or laboratory. That means the instructor plays an important role in satisfying the needs of the students. Thus, understanding this theory is critical to excelling as an instructor. Students are more likely to try to satisfy their desire to know and understand once their physical and psychological needs have been met. Instructors can help them meet their lower order needs by providing a safe, comfortable, reliable, physical learning environment. Instructors can also treat them with respect and care, helping them feel like they belong and enhancing their self-esteem.

Applying Maslow's Theory in the classroom may be limited by the instructor's knowledge of the students or the instructor's ability to meet their needs. Chapter 2 discussed various factors that affect students in the training environment. Be aware of those influences and know the resources available to help students involved in conflicts that affect their training process. Being able to address and manage the influences that affect students will greatly increase the instructor's effectiveness in motivating them to pay attention and learn.

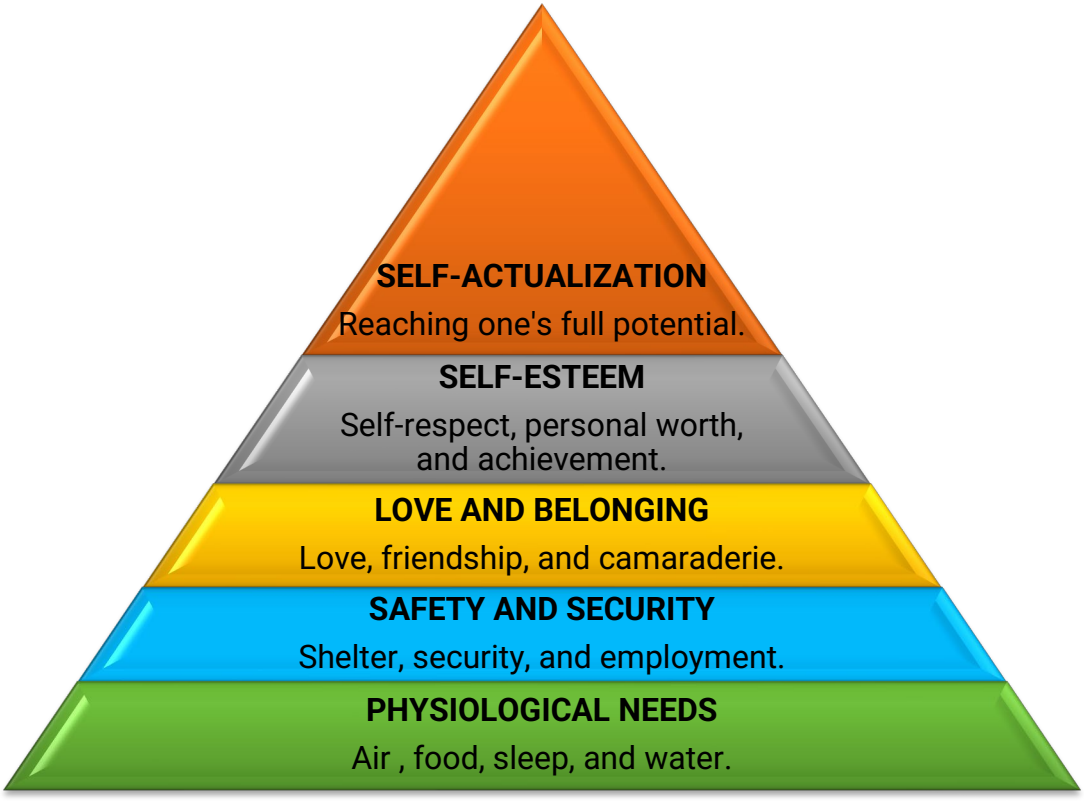

Figure 4-3: Maslow's Hierarchy of Needs

The key principles to applying Maslow's motivation theory in a training situation are summarized below:

a. **Needs and Drives.** When students have a need or drive, they lack something they are striving to obtain. A need is usually defined as a deficit or lack of something that creates a desire for satisfaction. The need to belong, for instance, can motivate a student to seek group acceptance. That need, or drive, can cause the student to behave in a manner that eventually reduces the need and results in satisfaction (in other words, the meeting of the need).

b. **Interest.** Interest refers to a person's view of an activity as worthwhile or enjoyable for its own sake. An instructor who captures students' interest draws on their internal motivation. The instructor must learn to create student interest throughout the lesson because the learning process breaks down when students lose interest, consequently the instructor will lose the student's attention completely and it will be that much harder for them. To generate interest, state the purpose of the lesson at the beginning. Emphasize why they need to learn the material (relevance) and how they will benefit from the information (e.g., What's In It For Me - WIIFM). If possible,

relate a personal experience (e.g., sea story) that emphasizes the topic's importance to the student. After students understand the need to learn something, they are more likely to give their full attention to the instruction, which will facilitate the acquisition of knowledge.

c. **Values.** The students' values, attitudes, and previous experiences affect their willingness and readiness to learn, so the motivation you use must fit a student's value system. Students have more interest in a subject that aligns with goals they see as important and have relevance in their lives. For example, a lesson on the flag or the Code of Conduct would probably motivate a student who values patriotism.

d. **Attitudes.** Displaying a positive attitude about the subject you present can motivate students to want to learn. Students usually have more desire to learn when their instructors show an interest in what they teach. Remember you are the students' role model. They will feed off the instructor. Have a positive attitude at all costs.

e. **Incentives.** Incentives or rewards can also stimulate motivation as a means of reinforcement, in other words, increasing the frequency of a behavior occurring. Incentives such as good grades, awards, or selection as a distinguished graduate may motivate some students or provide them with an incentive.

f. **Achievement.** The desire for achievement and recognition can be a powerful motivator for certain students. Help students understand that the course provides an opportunity for them to achieve a significant objective - mastering knowledge valuable to the Navy and important to their Navy careers, and that mastering this material can lead to more opportunities and career advancement.

4.4. Motivation Process Elements. There are three elements in the motivation process (Figure 4-4).

a. **Need.** Motivation is initiated by the conscious of unconscious recognition of an unsatisfied need.

b. **Goal.** A goal is established to satisfy this need.

c. **Action.** A decision is made on the action which is expected to achieve the goal.

If the goal is achieved, the need will be satisfied, and the action is likely to be repeated the next time a similar need emerges. If the goal is not achieved, the same action is less likely to be repeated.

Figure 4-4: Motivation Process

4.5. Approaches to Motivation. The approaches that can be adopted to motivating people can be classified under three different headings:

a. **Valuing People.** Motivation will be enhanced if people feel that they are valued – people want to feel important and needed. The instructor will be demonstrating to students that they are valued by investing in their success, trusting, and empowering them. Give students the opportunity to be involved in the learning process. Treat students like human beings, rather than resources to be exploited or a job to be completed. Another method to demonstrate the extent to which they are valued is to provide them with rewards.

b. **Financial Reward.** Although financial reward has long been what people have traditionally thought of as a prime extrinsic motivator, doubts have been cast about the effectiveness of money as a motivator. The lack of financial reward can certainly cause dissatisfaction, but its provision does not always result in enduring satisfaction. More likely, people may feel good when they get an increase in pay or advancement, as it is a highly tangible form of

recognition. However, this feeling of euphoria can rapidly die away and may lead to the same feeling of emptiness prior to the pay increase.

In the U.S. Navy, monetary rewards come in the form of advancement opportunities, SRBs, and the Meritorious Advancement Program (MAP). Instructors seldom have any influence on the awarding of financial rewards to their students. Therefore, it is better to focus on motivators to which an instructor can have direct influence over.

c. **Non-financial Award.** These non-financial awards come in many different forms. These include:

(1) Verbal praise.

(2) Academic advancement.

(3) First opportunity to select orders.

(4) Special liberty.

Recognition is one of the most effective methods of motivating people. People need to know not only how well they have achieved their objectives or carried out their work, but also that their achievements are appreciated. Recognition will be available for teams as well as individuals to reward collective effort and avoid creating isolated winners. Recognition will be given for specially valued behaviors, exceptional effort, and special achievements.

When giving people recognition, remember these important guidelines. Recognition is about valuing people. As such, it must be personalized so that people appreciate that it applies to them. Recognition must also be genuine and sincere, not used as an artificial motivating device. Regarding the timing of recognition, recognition needs to be given as soon as possible after the achievement.

Recognition can be provided by positive and immediate feedback which acknowledges what has been achieved by the student or group of students.

4.6. Applying Motivation Techniques to Instruction. Motivation techniques can enhance each part of a lesson or section, including the introduction, presentation, and summary. Let's explore how to apply these techniques effectively.

4.6.1. Lesson/Section Introduction. The instructor can use motivation at the beginning of a lesson/section as a means of introducing the material, stimulating interest, arousing curiosity, and developing a specific learning goal. Besides showing the need for learning the information, the introduction must serve as a connecting link between the present lesson/section and previous lessons/sections.

Use the introduction to discuss specific reasons why students need to learn the information you plan to present. To reinforce their desire to learn, show students how the information relates to their career advancement or some other need. Give the students specific examples of how they will apply what they are learning on the job. In many cases, instructors may motivate students by telling them they will need the information to understand future lessons/sections or to pass later assessments.

Ideally, the introduction will provide a road map for learning. A clear introduction can contribute greatly to a lesson/section by removing doubts in the minds of learners about where the lesson/section is going and how they are going to get there. It will explain how information is organized. Students understand better and retain more when they know what to expect. Effective visual aids may be helpful at this point.

To motivate students, consider these attention-grabbing strategies:

a. Emphasize the subject's importance.
b. Use startling statistics.
c. Pose rhetorical questions (e.g., "Have you ever…?").
d. Share impactful quotes from well-known figures.
e. Ask engaging questions directed at the whole class.
f. Tell a relevant story or anecdote that connects to students' experiences, ensuring it remains on topic.

Choose attention-getting techniques based on the subject matter and the students' interests. The introduction will achieve several key goals:

a. Generate interest in the topic.
b. Clearly state objectives and their significance.
c. Guide students thinking in desired directions.
d. Outline the scope.
e. Show students the value of the subject matter.
f. Explain teaching methods.
g. Set expectations for student participation.
h. Tell the students how many periods the lesson/section is scheduled for and when it is expected to finish.

Once the instructor captured students' attention, they serve as a guide into the subject matter.

4.6.2. Lesson/Section Presentation. To sustain student engagement, avoid reading directly from the IG. Become thoroughly familiar with the material to be presented. Know precisely what is to be taught and how, ensuring that students are not overwhelmed with extraneous information. Focus on the key points that are essential for their learning.

Present the content in a logical order, starting with what students already know and gradually moving to new concepts. While minor digressions can enhance interest, keep them limited. Use training aids like graphics, models, and animations to motivate students, and frequently check for understanding by asking questions**.**

4.6.3. Lesson/Section Summary. The summary serves to recapture students' attention and build toward a motivational climax. While students may be given short or interim summaries at various places in a lesson/section, a comprehensive final summary will review all the main points covered. Reinforce learning by asking questions that help students retain information.

Remember the purpose of the summary is to instill a desire in students to remember and apply what they've learned. Although instructors motivate students throughout the lesson/section, the summary is the instructor's final opportunity to underscore the significance of the information. The ultimate goal of instruction is to inspire students to remain motivated beyond the classroom and apply their knowledge in their professional lives.

CHAPTER 5
LEARNING THEORY

5.0. Introduction. The goal of the Navy instructor is to contribute to the academic success of students and to the success of the entire Navy. Instructor mastery of the subject matter, knowledge of learning theory and instructional, combined with an instructor's ability to deliver an effective lesson are likely to be the determining factors in the students' ability to learn the material and succeed in the course. How students are taught can influence their learning as much as the content itself. This means that the instructor's ability is a key factor in determining the outcome of the students' learning experience. Therefore, the instructor will have a thorough understanding of the learning process before teaching the first lesson.

The information in this chapter is designed to give instructors an introductory understanding of learning theories and instructional modalities from both historical and modern perspectives of educational psychology. The intent is to offer instructors an understanding of how students learn and equip instructors with the knowledge needed to provide effective instruction.

5.1. Types of Learning Theory. While there are numerous learning theories, the Navy focuses mainly on the following three:

5.1.1. Behaviorist Theory. Behaviorist learning theory, or behaviorism, is based on the premise that instruction will be targeted only at observable behaviors and not be concerned with the unobservable cognitive processes that take place in a person's mind. In other words, behaviorism focuses on the observable outcomes of learning rather than the cognitive processes that go into learning. Behaviorist theory is most notably associated with B.F. Skinner, John Watson, and their colleagues.

Behaviorism is associated with observable learner behavior and reinforcement. Behaviorists typically work by introducing a stimulus (question, problem, riddle, etc.) and awaiting an observable response in the students' behavior. The learner's role is to be reactive to the stimulus. Some examples of these in Navy training include pre-tests, comprehensive checks, learning through assessments that allow practice, repetition, and feedback. Gradually, over the course, the positive and negative feedback conditions students to achieve the learning objective (LO).

The behaviorist learning model is a good fit for some Navy training, since the goal of some Navy training is to literally change the behavior of learners so they can successfully perform important tasks for a particular job and/or act in specific ways that support the Navy mission.

5.1.2. Cognitive Theory. Over time, psychologists realized that the study of behavior alone would not provide an accurate account of learning that is taking place. Human cognition needed to be considered, even though it is not a visible process. Cognitive learning theory emphasizes how students learn when new knowledge is acquired or existing knowledge is modified by their experiences, rather than specific observable behavior. Cognitive learning focuses on changing the way a student thinks, performs, and/or feels (conscious thinking). The educational theorist most closely associated with cognitivism is Robert Gagne.

In contrast to behavioral theory, cognitive theorists focus on the acquisition of knowledge, the ways individuals organize and integrate information within their existing knowledge, as well as the processing and consolidation of information. Cognitive learning theory methods aim to assist students in assimilating new information into existing knowledge. Although the use of drill exercises can assist in cognitive strategies, it is more important to have students actively study, retrieve, generate, and apply new information to integrate it into long term memory.

When considering cognitive theory, it helps to think of the learner as an information processor or computer. As information is inputted, it gets processed and leads to certain outcomes. As an instructor, the role is more viewed as a guide for the way the information is introduced, essentially – the instructor is viewed as a feeder of information to the computer.

For example, to encourage assimilation, ask students to explain the new information or skill in their own words. Other cognitive theory examples include providing diagrams, guiding debates, and using case studies. When using a cognitive approach, instructors will focus on helping students build on their existing knowledge and experience.

5.1.3. Constructivist Theory. Malcolm Knowles observed that mature learners prefer to be involved in the planning of their learning activities and that their life experiences lay the foundation for new learning (Knowles, 1980). These principles form the basis of the constructivist theory of learning. Instead of viewing knowledge as something to only be received, the constructivist model enables the student to construct knowledge through their own efforts and activities. Collaboration and teamwork, experimentation, discovery, and task-based activities are examples of learning that follow the constructivist model.

In constructivist learning, the focus is on how learners interpret the new information they are receiving and how they apply this to pre-existing information/knowledge. When learning does not fit into an existing framework, a learner may build new knowledge constructions to fit their new experience.

The role of the instructor is to help the student create associations between pre-existing knowledge and the new applications and meanings so the learner can expand their inherent capabilities. This process can deepen learning and provide the student with longer term memory and enhanced flexibility in application.

An instructor in a facilitation role encourages students to be personally responsible and self-directed in learning and uses a variety of instructional methods and learning resources to support the student in their learning process. However, there are times when instructors in a facilitation role must maintain control to varying degrees because of the nature of the subject matter and the learners' limited backgrounds. For example, learners with entry-level knowledge may require a more structured experience with less autonomy. If the students are not supported enough, then learning may not occur.

Instructors serve as mentors that encourage the learner to consider the application of new knowledge in different contexts and perspectives. Failures to construct new meanings or to associate new learning with pre-existing knowledge can create dissonance within students and impede their ability to be successful and complicate the acquisition of new knowledge. The role of the instructor in keeping learning moving forward is key to positive student outcomes. Some examples of constructivism can be seen in the educational field are internships, facilitation, apprenticeships, group work, collaborative work, and clinical work.

5.2. Learning Styles or Preferences. Navy instructors should be able recognize student's differences in needs and learning preferences, so that the LOs of the subject matter are satisfied. Being aware of the different ways students learn will enable instructors to fine-tune the instructional style to fit the needs of the learners. Students learn best when they are fully engaged and immersed in the material using all their senses. It is essential that instructors tailored their instructional approaches to meet the needs of the students.

5.2.1. Experiential Learning Theory. Just as students have different ways of learning new material, they also have different preferences of learning new material. One person's learning preference may not be effective for another person, so instructors must be flexible and perceptive enough to use various instructional techniques that cater to more than one learning preference. Teaching is not a “one-size-fits-all” approach. As a result, instructors must constantly adapt to the needs of students.

Most people have a leading style of learning but use all the basic learning preferences to some extent depending upon the situation. Varying instructional techniques increases the chances for all students to master the objectives of the training. Knowing

a student's learning preference is essential when providing remediation or tutoring for a student who is having problems in a course.

David Kolb's Experiential Learning Theory identifies four distinct learning preferences, which are based on a four-stage learning cycle (Kolb, 1984):

a. **Concrete Experience: Learning By Feeling.** Many learners prefer an experience-based approach to learning. They rely heavily on their own feelings and personal judgments. Personal involvement is the key for them, in other words, they want to be involved in their learning process. They learn best by imitation after watching others take part in role-playing and simulations. They very much like to be involved with the real thing. Think of the phrase “watch and learn.” For example, suppose you were trying to instruct your students on how to operate a fire pump. Concrete learners would prefer to watch you demonstrate the operation. Then, they would like an opportunity to operate the pump by imitating your performance.

b. **Active Experimentation: Learning By Doing.** Other learners prefer to learn by quickly becoming involved with the subject and taking an active step-by-step approach. They learn best from small group discussions, structured exercises, and problem-solving approaches. Active learners are experimenters who prefer to systematically try out new skills and learn/construct the knowledge as they go. A trial-and-error way of learning appeals to them. To operate the fire pump, active learners would systematically try out several different ways to operate the pump until they achieve the correct method.

c. **Reflective Observation: Learning By Watching.** Some learners like to observe and reflect (make active comparisons and contrasts as they construct the knowledge) before drawing conclusions. They learn best from lectures, films, and reading. Reflective learners prefer to play the role of the impartial observer while watching others. To operate the fire pump, reflective learners would watch others operate the pump and reflect (think) about the different ways of operating. They would then analyze their observations before attempting to operate the pump themselves.

d. **Abstract Conceptualization: Learning By Thinking.** Abstract learners prefer a theory-based and analytical approach to learning. They learn best from lectures by experts, theoretical reading, case studies, and activities that require solitary thinking. These learners like to spend time with the material – analyzing it and dissecting it. Abstract learners like to discover the theory

behind the subject matter and analyze the approach to discover what other concepts are involved in as part of their construction of knowledge. In operating the fire pump, they would prefer to read about its principles of operation and to analyze the concepts involved in its operation before attempting to operate it.

5.2.2. Learning Preference Selection. Research indicates that students learn most effectively and retain information longer when exposed to learning experiences that cater to all four learning preferences. Information retention significantly improves when instructors use methods that engage multiple learning styles. According to Kolb, individuals typically have a preferred learning style influenced by various developmental factors (Kolb, 1984). This style develops through a series of experiences, shaping our preferences for action versus observation and for thinking versus feeling.

It is important to note that one learning theory is not better than another. Exploring and understanding these different learning theories will encourage you to think critically about every single decision you make in your teaching. The Navy recognizes, like many theorists, the importance of maximizing the learning of all Naval personnel, as you observe other dominant learning theories in your assigned material. To be effective, the instructor must understand and integrate all these theories into their teaching. The key is to be adaptable and tailor instruction to the needs of the students (without altering the course framework).

5.3. Learning Theorists. This section outlines key learning theorists and their theories relevant to Navy training.

5.3.1. Malcolm Knowles. Malcolm Knowles, in his seminal work The Adult Learner (1973), popularized the term andragogy, which refers to a set of core principles guiding adult learning. He was among the first theorists to explore the distinctions between adult learning (andragogy) and child learning (pedagogy).

Knowles's Theory of Adult Learning emphasizes that adults differ fundamentally from children in their approach to learning. Adults possess a self-concept of responsibility for their own lives and tend to be self-directed learners. They are intrinsically motivated to learn based on their personal needs and interests.

A key distinction between andragogy and pedagogy lies in the role of experience. Adults bring a wealth of experience to the learning process, which serves as their primary resource for learning, whereas children typically have limited experiences to draw upon. Additionally, individual differences among learners tend to increase with age.

The andragogical model asserts the following key principles that influence adult learning:

a. **Need to Know.** Adults require a clear understanding of "why" they need to learn something before they engage with it. This understanding establishes purpose and helps set learning goals. When pursuing self-directed learning, adults carefully evaluate the benefits of acquiring new knowledge and the consequences of not doing so.

b. **Learner Self-Concept.** Adults see themselves as responsible for their own decisions. With maturity comes a psychological need for responsibility and ownership over their learning process. Adults thrive in environments where they have control over their learning experiences and are resistant to situations where they feel imposed upon.

c. **Prior Experience of Learner.** Adults enter educational settings with extensive and diverse experiences that serve as a foundation for new learning. Linking new information to existing knowledge enhances relevance and effectiveness.

d. **Readiness to Learn.** Adults are most ready to learn when they perceive a need to know or do something to manage real-life situations effectively. Their motivation to engage with material increases when they can immediately apply new knowledge or skills in practical contexts. Understanding the “why” behind the instruction is crucial for setting meaningful goals.

e. **Orientation to Learning.** Adults are primarily life-centered, task-centered, and problem-centered in their learning approaches. They benefit from content presented in real-life contexts, as this practical application shifts their focus from theoretical concepts to problem-solving. Learning is most effective when it is oriented toward real experiences, helping adults see the direct relevance of their studies.

f. **Motivation.** While adults respond to external motivators such as career advancement and promotions, internal motivators—like increased job satisfaction, enhanced self-esteem, and improved quality of life—are often more compelling.

5.3.2. Robert Gagne. Robert Gagne was an educational psychologist who pioneered the science of instruction in the 1940s.

Gagne’s Nine Events of Instruction provide a theoretical basis for much of the Navy's curriculum, including technical training, leadership, and personal development. Through

his research and studies, Gagne identified the mental processes of adult learning. The nine-step process of instructional events provides the basis for numerous instructional design systems, including the typical structure of Navy IGs. Furthermore, Gagne's Nine Events of Instruction will help instructors prepare and deliver quality instruction. Preparation of the goals and objectives prior to implementing the nine events will help to place the events in the proper context. Then, the events of instruction can be modified to match the lesson content and the level of students' knowledge. In summary, it is critical for instructors to have a knowledge of Gagne's nine events of instruction (Table 4).

Table 4: Gagne Nine Events of Instruction

Step	Description
1. **Gain Attention**	Gaining students' attention is essential to effective instruction. This sets the tone for the course and will focus the students on the subject matter. Gain students 'interest with questions, ice breakers, short music, video or demonstrations that relate to the course. To begin the learning process, the material must be attended to. If the learner does not pay attention in the first place, then learning will be delayed or may not occur altogether.
2. **Tell Learners the LOs**	Inform students of the course LOs to help them focus on the outcomes of the course. This provides a clear indication of expectations; what behavior is to be tested and provides a road map for the course.
3. **Stimulate Recall of Prior Learning**	Create context for the objectives by reminding the students of previously introduced information and activities that relate to the new material to help them build on knowledge or skills they have already learned. Ask students to recall familiar information, activities, instruction, and facts to associate with the new material. Doing so will also help them assimilate new knowledge they acquire with prior and existing knowledge
4. **Present the Stimulus**	Display the instructional content in an effective manner. Remember that it is critical to take into consideration learner styles and preferences. Ensure the delivery of the content meets the LOs and will help guide the learners towards the LOs. Every instructional choice you make will have a purpose.
5. **Provide Learning Guidance**	Help the learners enhance understanding by using examples, graphics, case studies, and storytelling or analogies. Instructors

	must be gathering momentum and keeping students engaged during the entire training session.
6. **Elicit Performance**	Be sure the learner can demonstrate their knowledge in a subject in a variety of ways. Ideally, a learner will be able to practice in a safe environment through performance, such as demonstration, role play, and exercise. Questions also allow a student to show off their knowledge.
7. **Provide Feedback**	Learners need to receive feedback on how they are doing to make any progress and allow correction. You can provide feedback throughout the lesson in a variety of ways, but it needs to be constructive. These can include critiques, role play, and "what if" questions and scenarios. The feedback needs to be timely and again focused on what the learner is doing well, and what are areas they can improve on.
8. **Assess Performance**	As an instructor, you can measure performance in a variety of methods, such as a test, quiz, hands-on performance, writing assignments, or any other measuring tool that forces students to reach back in their memory to recall, retrieve, recognize, and generate the material. Using performance measures can ensure the students have met the course objectives. Allow students to complete these assessments themselves, without any coaching or help from an instructor. Remember, this promotes effortful recall of information and will allow you to gauge what the students know and do not know. Be sure to address considerable deficiencies.
9. **Enhance Retention and Transfer**	Allow learners to demonstrate that they have retained the information they were presented. Instructors can do this by providing a review at the end of the lesson. This allows students to realize they have made progress, met the course objectives, and built a personal connection to the newly acquired knowledge. Learners can also be allowed to apply the learning in practical ways in different situations or simply repeated practice.

5.3.3. Dr. Benjamin Bloom. Dr. Benjamin Bloom is another well-known contributor to the field of education and training. Bloom's Taxonomy of Learning was created to promote higher levels of thinking in education that go beyond simple recognition or recall of information, such as analyzing and evaluating and elaborating on concepts, processes, procedures, and principles rather than just remembering facts (Anderson & Krathwohl, 2001).

Known as Bloom's Taxonomy, Bloom identified three different domains of educational activities of learning. These activities are the cognitive domain, the affective domain, and the psychomotor domain.

a. **The Cognitive Domain.** The cognitive domain is comprised of mental skills. There are six major cognitive processes that make up the cognitive domain (Figure 5-1). These cognitive processes move from simple to more complex processes of cognition.

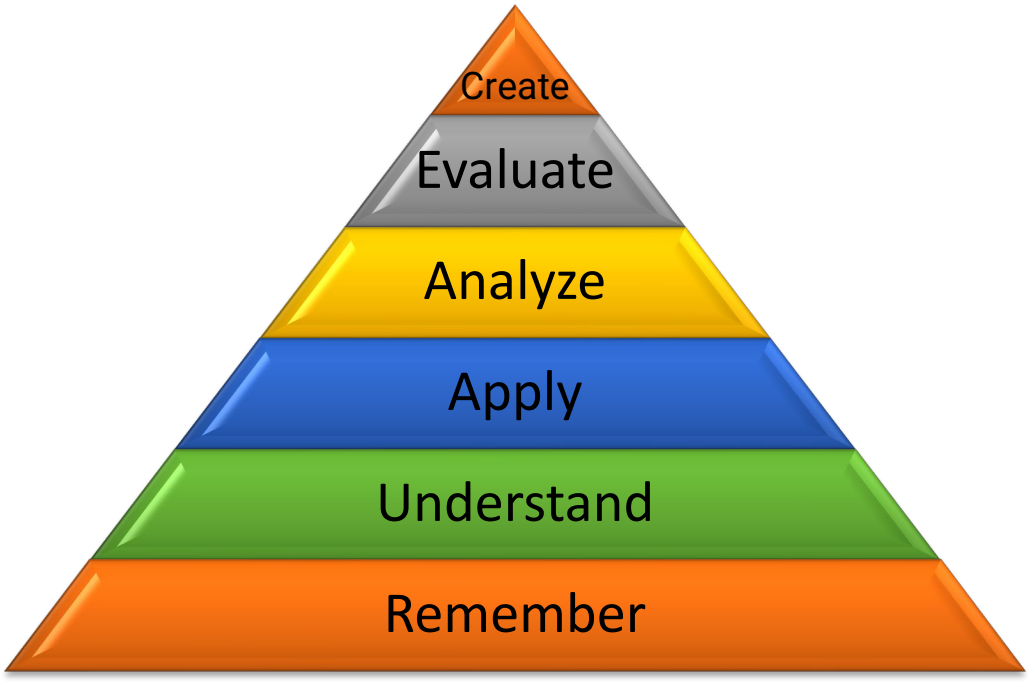

Figure 5-1: Bloom's Taxonomy of Learning Cognitive Domain

It is important to understand that NETC uses five different knowledge proficiency levels (KPL) for assigning the level of proficiency to which the course will be trained and each LO that will be tested to (see Table 5 for KPLs).

Table 5: Knowledge Proficiency Levels

Level	Description
KPL1 - Remember	The student can recall facts, basic concepts, or other rote pieces of information.
KPL2 - Understand	The student can grasp the meaning of information, interpret, and summarize pieces of information.
KPL3 - Apply	The student can use knowledge and principles to solve problems, apply information in new situations, or carry out other procedures as necessary.

KPL4 - Analyze	The student can break down information into parts, examining relationships between parts, and drawing conclusions accordingly.
KPL5 - Evaluate/Create	For Navy training, Evaluate and Create are combined into one level. Evaluation is making judgments based on criteria and standards. Creating is generating new ideas, products, or ways of viewing things.

5.3.4. Dave's Psychomotor Taxonomy. Dave's Psychomotor Taxonomy categorizes psychomotor performance into five distinct skill proficiency levels (SPL). NETC places a strong emphasis on the learning outcomes associated with the psychomotor domain, given the technical nature of its training programs. Psychomotor skills involve physical movements, motor coordination, and task-specific performance.

This domain also examines the interplay between cognitive functions and physical actions, such as the ability to handle tools or instruments effectively. NETC utilizes Dave's Taxonomy to define five levels of psychomotor proficiency, learning, and performance (see Table 6).

Table 6: Skill Proficiency Levels

Level	Description
SPL1 - Imitation	This is where the student can copy the skill or task while observing a demonstration.
SPL2 - Manipulation	This is where the student can perform certain skills or tasks from memory when they are given a set of directions.
SPL3 - Precision	This is where the student can perform the skill or task with precision and no assistance from the instructor.
SPL4 - Articulation	This is where the student can coordinate and adapt the actions of the skill or task for consistency and novelty.
SPL5 - Naturalization	This is where the student has developed muscle memory to the point where they are performing the skill from memory without putting extra thought behind it.

5.3.5. Krathwohl's Taxonomy of the Affective Domain. Krathwohl's Taxonomy is an educational framework that builds upon Bloom's Taxonomy, specifically focusing on the affective domain. Developed by David R. Krathwohl in the 1960s, it categorizes the development of attitudes, values, and emotions in learning. The taxonomy consists of five hierarchical levels: receiving, responding, valuing, organizing, and characterizing.

The affective domain is associated with emotions and feelings, such as interest, abilities/attitudes, and appreciation - soft skills. Measuring the accomplishment of objectives in the affective domain is generally more difficult than in the other domains due to its abstract nature. This domain focuses on inward attitudes. In this domain, we are not only interested in correct responses, but also in determining students' feelings, values, abilities/attitudes, and interests toward the subject. NETC uses Krathwohl's Taxonomy to classify the affective domain, which includes five different affective proficiency levels (APL) (Table 7).

Table 7: Affective Proficiency Levels

Level	Description
APL1 - Receiving	This is where the student passively demonstrates awareness, a willingness to hear, and selected attention. Without this level, no learning can occur. The information being taught must be received in the first place for the encoding process to being, in other words, the information is beginning to become integrated into long term memory.
APL2 - Responding	This is where the student actively attends and reacts to stimuli and is a participant in the learning process, which is crucial for learning to occur. The student needs to be responsive to the material, in other words, they need to know why this is important and why they should care.
APL3 - Valuing	This is where the student attaches a value to an object, concept, or piece of information. Values are expressed in overt behaviors and are often visible. The student will invest and care about the topic being taught on.
APL4 - Organizing	This is where students can put together information and ideas and accommodate them within their own framework of personal values, comparing, relating, and elaborating on what has been learned. There is an integration of new information into existing knowledge.
APL5 - Characterizing	This is where the student has held a particular belief or value that now exerts influence on his or her behavior so that it becomes representative.

Objectives in the affective domain center on students' feelings about a topic and typically hold value only when there is a comprehensive understanding of the material. In Navy training, the majority of course objectives align with the cognitive and

psychomotor domains, while a smaller portion pertains to the affective domain. Nevertheless, the courses that emphasize affective outcomes are critical to the success of individual Sailors and the Fleet. Examples of such instruction include Navy Core Values, sexual harassment awareness, sexual assault prevention, equal opportunity, and operational stress control.

5.4. Knowledge, Skills, and Abilities/Attitudes. Knowledge, Skills, and Abilities/Attitudes (KSA), commonly referred to as KSAs, are frequently used by the Navy in curriculum development. According to Bloom's Taxonomy, KSAs encompass three types of learning:

a. **Knowledge** corresponds to the cognitive domain.

b. **Skills** align with the psychomotor domain.

c. **Abilities/attitudes** relate to the affective domain.

KSAs can be viewed as learning outcomes; after completing a course, learners should have gained new knowledge, skills, or abilities/attitudes.

d. **Knowledge:** This aspect involves the development of intellectual skills and cognitive processes. Examples include understanding principles, theories, or processes, such as the diesel engine combustion cycle.

e. **Skills:** Skills pertain to physical movement, coordination, and motor abilities. For instance, this includes the capability to operate equipment, like following procedural steps in diesel engine operation.

f. **Abilities:** Abilities are enduring attributes that enable individuals to perform tasks. They may be innate or acquired through learning and practice.

g. **Attitudes:** Attitude encompasses internal emotional responses, including feelings, motivation, and enthusiasm. While attitudes cannot be directly taught, training and instructors can influence a learner's perspective and motivation.

5.5. Learning Objectives. LOs are clear statements that define what learners are expected to achieve by the end of a specific lesson, course, or training program. It outlines the knowledge, skills, attitudes, or competencies that students will acquire and demonstrates how these outcomes can be measured or assessed.

Key characteristics of effective LOs include:

a. Specific: Clearly define what is to be learned.

b. Measurable: Allow for assessment of whether the objective has been met.

c. Achievable: Realistic and attainable within the given timeframe and resources.

d. Relevant: Aligned with broader educational goals or standards.

e. Time-bound: Indicate when the learning will occur.

For example, an LO might state: "By the end of this lesson, students will be able to analyze and interpret data using statistical methods." This provides a clear expectation for both the instructor and the students.

5.5.1. Elements of an LO. LOs are statements of what the students will be able to do after competing part of a course or the whole course. LOs have three elements: the condition, the behavior, and the standard. These elements define under what circumstances to be able to do it (condition), what the student will be able to do (behavior), and to what degree of proficiency to which they will be able to do it (standard). Remember, that as an instructor, it is valuable to be able to understand the individual parts of an LO.

a. **The Condition Element.** The condition element defines aiding and limiting factors imposed upon the student in satisfying the performance requirements of the objective. This element may also define the degree of interaction with the training environment that the student may expect.

b. **The Behavior Element.** The behavior element of an LO defines what the learner will be able to do as an outcome of the training. It may include application of knowledge, accomplishment of a skill, or demonstration of an attitude or value.

c. **The Standard Element.** The standard element of an LO specifies the criteria the students' performance must meet. Standards are normally defined as time, accuracy, amount, speed, or some other quantifiable measurement. As with the condition element, whether the standard element appears in the objective depends on how critical it is to determine the students' fulfillment of the objective.

5.5.2. Types of LOs. There are two types of LOs that you need to be familiar with as an instructor: Terminal objectives (TOs) and enabling objectives (EOs).

a. **TOs.** TOs are specific statements outlining the expected performance from a student upon completion of the training. They detail the behavior that will be exhibited, the conditions under which it will occur, and the standards to which it will adhere. TOs are derived from the duties relevant to the course and directly support the overall mission statement of the training program.

b. **EOs.** EOs are specific statements that describe the behaviors necessary to achieve a TO. They may also support other EOs within the course. EOs articulate the conditions and standards applicable to the training environment, including the knowledge and skills needed to meet the TO. Importantly, EOs can be accomplished at various points throughout the course after students receive the appropriate training.

5.5.3. Relationships to Objectives. LOs may have several relationships to keep in mind when preparing your lessons. Objectives may be interrelated, may have a dependent relationship, may have a supportive relationship, or may be unrelated.

a. **Interrelated:** Lessons or sections with multiple objectives may have a shared common factor. They may share basic knowledge or pertain to similar tasks. When thinking about objective relationships, it is beneficial to remember Bloom's Taxonomy. Lower-level objectives (knowledge and comprehension objectives) may cover knowledge that will be needed for a variety of topics later. For example, an electrician may need to know Ohm's Law before moving on to learning how to troubleshoot motors, lighting, and electrical distribution systems.

b. **Dependent relationship:** Domains involve a hierarchy of learning outcomes. Those outcomes allow you to provide instruction in a defined sequence. Thus, you first present facts, methods, basic procedures, and terminology. Then you can measure your students' accomplishment of those objectives (by testing) before teaching higher levels of information. For example, a student will need to be able to identify piping system symbols before being able to interpret a system's piping diagram.

c. **Supportive relationship:** The mastery of one objective can help mastering another.

d. **Unrelated:** Finally, there may be objectives dealing with skills and knowledge that are unrelated and independent of other objectives. These types of objectives can be taught in any order.

The objectives show students what they are expected to learn from instruction. The objectives tell the instructor at what level to present information. If the purpose of a topic, as defined by the LOs, is to cover information at the knowledge level, be careful not to go into too much detail. Conversely, if the purpose is to teach students to apply the information presented, do not make the critical error of presenting information only at the knowledge level. The instruction needs to match the type of knowledge that is aimed to be taught, as well as be in alignment with the LOs.

LOs are developed based on two primary sources: Task analysis (TA), formally referred to as Job Duty Task Analysis and KSA data.

5.5.4. TA Data. LOs connect training, testing, and the job. A job is made up of duties and tasks. A duty is a major part of a job that occupies the most work time. Tasks are small activities that are part of a duty. An example of a job would be an air conditioning technician in the Machinists 'Mate rating (Figure 5-2). An air conditioning technician serves many duties, including operating and maintaining air conditioning systems. Underneath each of those duties are tasks. Tasks under the air conditioning system preventive maintenance duty include items such as refrigerant piping system inspection and cleaning the air conditioning refrigerant distribution system flow switches.

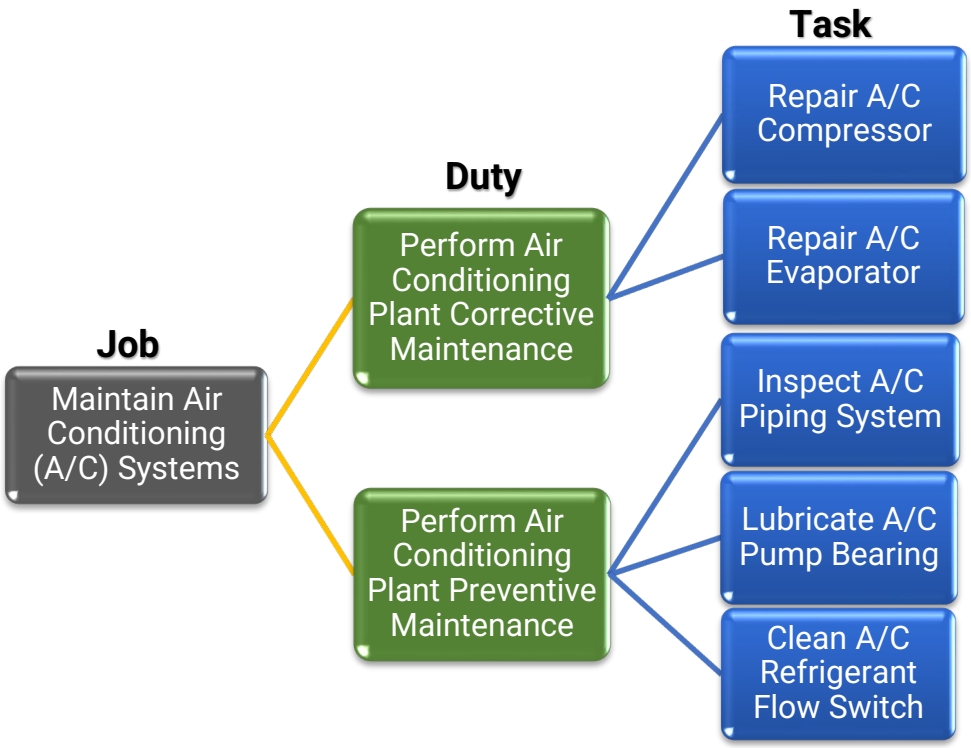

Figure 5-2: Task Analysis/Job Duty Task Analysis Example

5.5.5. KSA Data. The attributes required to perform a job are generally demonstrated through qualifying service, education, or training through knowledge, skill, and ability. As described in Chapter 5, the term KSA is widely used within the training and human resources world. Objectives are written to reflect three factors:

a. Knowledge is the broad and general understanding of facts or principles relating to a particular subject area.

b. Skill is the application of knowledge resulting from development of basic abilities through formal training and practical experiences.

c. Ability is capacity in a general area that may be utilized to develop detailed, and specific skills.

LOs are generally categorized as either knowledge or skill objectives. Bloom's Taxonomy provides a framework for identifying and defining various types of LOs, positing that learning outcomes can be best understood as changes in student behavior. This taxonomy divides learning into three domains: the cognitive domain, the affective domain, and the psychomotor domain. For more information on LOs, refer to NAVEDTRA M-142.2.

CHAPTER 6
SCIENCE OF LEARNING

6.0. Introduction. Learning is influenced by a myriad of factors, and no two individuals learn in the same way or at the same rate. Recognizing individual differences is crucial, as students are shaped by various positive and negative influences within the learning process and environment. These influences can be both internal and external to the learner. As an instructor, understanding how people learn will enhance the educational experience and make instructors more effective.

An LO is a clear statement that defines what learners are expected to achieve by the end of a specific lesson, course, or training program. These objectives serve as a roadmap for student achievement, guiding both instruction and assessment. They outline what will be taught and how student success will be measured.

In the Navy, it is essential for instructors to grasp the classifications, elements, and types of LOs. This knowledge is vital for helping learners meet the written objectives effectively. By applying appropriate learning principles and techniques, instructors can ensure that students retain information and ultimately achieve the desired learning outcomes.

Navy training has adopted the Practical Applications of Learning Science (PALS) developed by Dr. Van Schaack to enhance the effectiveness of its educational programs, optimizing the retention and application of knowledge through evidence-based teaching methods. By integrating cognitive science principles, PALS aims to improve learner engagement, accelerate skill development, and ensure mission readiness across various training environments. For more detailed information on PALS, refer to Appendix D.

6.1. What is Learning? Learning occurs when there is a change in behavior and mental associations because of an experience.

6.2. How People Learn? This section describes how people learn and how instructors can maximize learning.

6.2.1. Transfer. The transfer of knowledge is essential for developing proficiency in various skills. As a Navy instructor, understanding the types of learning experiences that promote effective transfer is crucial. Transfer refers to the ability to apply what one has learned in one context to new contexts, such as real-world applications in the Fleet. It is directly related to prior learning and practical application.

Learning is an active process where individuals engage with objects, experiences, and conversations to build knowledge. This process occurs within a social environment, influenced by interactions and cultural contexts.

a. **Influences on Transfer.** Different learning experiences may seem similar when assessed solely on memory recall, but they can vary significantly in their effectiveness for transfer. Some experiences may enhance memory without facilitating transfer, while others support both. Aligning LOs, content, and instructional activities with assessments is essential for ensuring knowledge and skills transfer.

   Key factors influencing successful transfer include:

   (1) **Degree of Mastery:** The first factor that influences successful knowledge transfer is the degree of mastery of the subject. If there is no initial acquisition of the material, then there can be no expectation of transfer or further mastery. Transfer is affected by the degree to which people learn with broader understanding rather than memorizing sets of facts or following a fixed set of procedures. For example, a Sailor may know how to perform emergency steering procedures on a U.S. Navy ship without explaining each step in the process. However, understanding the system assists with troubleshooting. It may also enable the innovation of new ideas on how to improve the process, procedures, and the system.

   (2) **Motivation:** As discussed previously in this manual, motivation is getting learners interested and involved in their learning process. It is crucial to setting the student up for a successful learning experience. The more motivated the learner is, the more knowledge, skills, and abilities transfer to the job. Challenges, however, must be at the proper level of difficulty to remain motivating. Easy job tasks are boring. Conversely, difficult tasks cause student frustration or discouragement. Learners are motivated when they can see the applicability of what they are learning and when they can use that information to do impactful. In the U.S. Navy, we train Sailors to perform tasks in support of their command's mission and vision and for the benefit of the Nation’s security posture.

b. **Maximizing Transfer.** To maximize transfer, it is important to organize material logically, aiding learners in forming initial mental models. Teaching must emphasize meaningful connections, allowing students to see relevance in what they learn. Additionally, providing sufficient time for learning and

processing information is crucial, considering the limitations of short-term memory.

c. **Short Term Memory.** Short-term memory is for the temporary storage of information, or "working" memory. Theorists believe the duration of information in short-term memory is somewhere between 15 and 30 seconds. Information is received through one or more of the senses such as sight or hearing. If the information is not actively rehearsed in the mind, then it will decay quickly. This is why repetition is so imperative. If we want to retain information, we begin to encode it for storage in long-term memory. Encoding often involves trying to make sense of the new information by relating it to what we already know. If we do not continue processing the information, it will fade away and be replaced with new information. For example: Seaman Turner and Petty Officer Smith put on protective gear, and Smith picks up an odd-looking tube, saying, “This is a needle gun." Because Seaman Turner has perceived that this is important information, this term goes into Turner’s short-term memory. However, that information will be lost until the information is actively studied, encoded, and solidified into long term memory.

d. **Long Term Memory.** Once information is moved into long-term memory, it becomes permanently stored. We seem to have an unlimited capacity to store information. However, retrieving it from long-term memory so that we can use it is sometimes a problem. The ease with which we access information in long-term memory depends very much on how it was stored. Consider the filing cabinet analogy. If you file by just throwing all your papers randomly in a drawer, you will have a hard time finding specific ones later. If you file papers with related ones, you can find them more easily. For example, Petty Officer Smith asks, "Have you ever seen someone using a jackhammer?" Seaman Turner nods affirmatively. "Well, the needle gun works in much the same way." Smith then demonstrates. Smith’s comparison enables Turner to make a mental connection between the needle gun, which is unfamiliar, and jackhammers, which are familiar. This association will help Turner store the information in long-term memory in such a way that he can easily remember it, and provides him a retrieval cue (this is, something said or noticed that jogs his memory, allowing him to recall it more effectively).

6.2.2. Building on Existing Knowledge. As mentioned previously, constructivism is a theory that views learning as a process of constructing meaning and making sense of experience. This often involves the learner grappling with experiences that conflict with

previously constructed knowledge, requiring them to evaluate these experiences and to construct a new understanding. This is an example of transfer. Some learners may have knowledge that is relevant to a learning situation that has not been activated. By activating this existing knowledge, instructors can build on learners' strengths. However, learners may misinterpret new information because it conflicts with previous knowledge and practices in their community, which is what can be referred to as interference. Therefore, without guidance from instructors, learners may fail to connect previous knowledge to subjects taught in a formal environment. Consequently, instructors must correct any preconceptions so that learners will gain a clear understanding of the subject.

6.2.3. Practice. Deliberate practice, active monitoring, and feedback maximizes transfer of knowledge and skills into new and novel applications. Monitoring involves attempts to seek and use feedback about one's progress. Feedback is identified as important for successful learning and will include knowledge, comprehension, and application. Learners need to know when, where, and how to use the knowledge they are learning. Instruction will be delivered in multiple contexts, the classroom, laboratory (using trainers or simulators), and on the actual equipment when available. Instructors will create authentic environments that include opportunities for critical thinking, problem solving, troubleshooting, and the appropriate handling of students who disrupt the class or impede the learning process for their peers.

6.3. Laws of Learning. As previously noted, learning occurs when there is a change in behavior and mental associations because of experience (for example, training). This change is reflected in a person's newly acquired perceptions or thoughts, physical behaviors, emotional reactions, or attitudes. For example, it is easy to observe a student driving a car (physical skill), but attitudinal changes must often be observed over time and may only display themselves well after the course has ended. Learning takes place when there is an appropriate change in a student's behavior that meets the LOs

The field of educational psychology suggested three laws of learning: the Law of Readiness, the Law of Exercise, and the Law of Effect. Since that time, further research revealed the learning process to be more complex, so educational psychologists added three additional laws to the originals. They are the Law of Primacy, the Law of Intensity, and the Law of Recency. Let us look at each of the six laws of learning more closely (Figure 6-1).

Figure 6-1: Laws of Learning

6.3.1. Law of Readiness. This law states students learn best when they are physically, emotionally, and mentally ready to learn. Since learning is an active process, students must have adequate rest, health, and physical ability. Students who are exhausted or in poor health obviously cannot learn much. Similarly, students with worries or concerns outside the classroom, or those who suffer personal problems, have little interest in learning and, thus, may not be ready to learn.

Although these areas are beyond the instructor's control, instructors must know how to address them in the classroom. In addition, for students to be mentally ready to learn, they must master certain knowledge and skills at one level before they can learn those required at the next higher level. For example, students who have not learned the basic application of a law have little chance of applying that law to more complex situations. Only students who are ready physically, emotionally, and mentally are likely to be willing participants in the learning process.

6.3.2. Law of Exercise. This law stresses practice makes perfect (when taught correctly) and causes permanent change. Students learn and retain information best when they have multiple opportunities for practice and repetition of the skill. Rarely can the mind recall new information or tasks after a single exposure; however, each time information is repeated or applied, or a task is practiced, learning is further reinforced by means of repetition. Therefore, the instructor must provide opportunities for students

to practice or repeat the task that not only forces recall but also allows for active recall. Repetition can involve many types of activities including recall, review, restatement, manual drill, and physical application.

6.3.3. Law of Effect. The Law of Effect is based on the premise that adults are typically most interested in learning things which result in satisfying consequences. Adults want immediate benefits from training, so begin your instruction by presenting the benefits of the lesson (why they should care). Continue to remind students of these benefits throughout the training, by expressing WIIFMs (What's In It For Me) in the form of intrinsic and extrinsic motivators.

Instructors should emphasize the value of training by connecting it to students' needs, such as self-satisfaction, increased self-confidence, and the development of practical skills. Each lesson should begin with a clear statement of objectives to help students establish learning goals and understand the expectations for their performance. At the same time, instructors should reassure students that they are there to support and guide them throughout the learning process. Motivation is strengthened by providing positive reinforcement as students' progress from one success to the next—an approach rooted in the law of effect, which states that behavior followed by satisfying consequences is likely to be repeated.

6.3.4. Law of Primacy. Like first impressions, this law states that the first instructional event often creates a strong, almost unshakeable, impression on the learner. For instructors, this means what they teach the first time must be correct, as the students' first learning experience should be positive and functionally related to training. It is far more difficult, time consuming, and costly to provide remediation for a particular subject than it is to take the time to properly prepare for and teach it correctly the first time around. Do the best you can as the instructor to create a learning environment where the students acquire knowledge the first time around.

6.3.5. Law of Intensity. The Law of Intensity states that if the stimulus (experience) is real, a change in behavior (learning) is far more likely to occur. A vivid, dramatic, or exciting learning experience teaches more than a routine or boring experience. A vivid experience is learned better and retained longer because it amplifies the senses and facilitates efficient encoding. A student will learn more from a realistic experience than from a substitute. Demonstrations, skits, and models intensify the learning experiences of students. You can talk about the effects of tear gas all day, but talking will never have the same impact as putting students in a controlled environment and letting them experience tear gas without a gas mask. That is intensity.

6.3.6. Law of Recency. All things being equal, the things learned last will be best remembered. The opposite is also true. The longer a student is away from a new fact or understanding, the harder it is to remember, because the time gaps create decay. In other words, the information fades from memory.

Reviews, warm-ups, and similar activities are all based on the principle that the more recent the exercise, the more effective the performance. Practicing a skill or new concept just before using it will ensure more effective performance. Instructors recognize the Law of Recency when they plan a lesson summary or a conclusion of the lecture. Repeat, restate, or reemphasize important matters at the end of a lesson to help students remember them. Plan the lesson in such a way to use the Law of Recency to your advantage.

6.4. Ways of Learning. Understanding how students learn is essential for making learning meaningful. The five methods outlined below are not inherently better or worse than one another; rather, students typically use a combination of these approaches in each class. Recognizing these learning styles can enhance the instructor's ability to help students absorb and retain information effectively.

a. **Imitation.** Much of learning occurs through imitation, where individuals replicate the actions of a role model or instructor. It is crucial for the Navy instructors to foster an environment where students can observe others in action. Set a positive example as a role model for your students. Additionally, provide positive reinforcement for accurately imitated behaviors. For instance, during OJT, a student might watch a supervisor install a part on an aircraft and then replicate the steps through trial and error.

b. **Trial and Error.** Also known as learning by doing, this method involves discovering how to perform a task through hands-on experience. It works particularly well when combined with imitation, students observe an instructor and then practice themselves. While this approach can build self-confidence and create muscle memory, it also comes with safety risks. For example, when learning to ride a bike, a student might fall and scrape their knees. This metaphor highlights potential hazards in Navy training scenarios. An example of effective trial and error is seen in a software development setting, where individuals learn new applications without manuals by experimenting until they find a successful method.

c. **Association.** This method involves connecting new learning to past experiences. When learners can link new problems to previously mastered concepts, they can navigate challenges more easily. For instance, explaining

electricity flow by comparing it to water flowing through a pipe can clarify complex ideas. Ensure that associations are relatable to all students, considering their varying experience levels. Clear and relevant comparisons will aid in their understanding and retention.

d. **Insight.** Insight occurs when learners suddenly grasp how various elements of instructional material are interconnected. This "ah-ha" moment often arises from a mental reorganization of ideas rather than simple trial and error. The ability to gain insight varies among individuals, influenced by their prior knowledge and the sequence of presented material. Encourage deeper thinking by asking questions that stimulate effortful recall, rather than relying on rote memorization. This approach is particularly effective in sciences and research, where students can reach new understandings of concepts.

e. **Transfer.** Transfer involves applying previous learning to new but related situations. As an instructor, your primary goal is to help students understand the importance of applying their knowledge in real-world contexts. Create a learning environment that closely resembles the actual job setting to facilitate this transfer. Providing realistic exercises using the same equipment students will encounter on the job enhances their ability to link motor memory effectively. For example, the Navy's damage control team training exemplifies this method by simulating real-life scenarios.

6.5. Learning Principles. The purpose of instruction is to get learners to process new information so that the new information can be stored in long-term memory. To learn more efficiently, it is crucial to process and store new information in such a way that it can be retrieved from a student’s long-term memory when needed. The acquisition of knowledge can be enhanced by applying certain learning strategies that we will discuss in the upcoming section.

a. **Repetition.** Repetition is one way to transfer information from short-term memory to long-term memory. For instance, many people rehearse a piece of information over and over in their mind until it is committed to memory. However, it is important to note rehearsing information is prone to quick decay of the memory if there are no study strategies to transfer the information into long term memory. Repetition can be enhanced by saying the information aloud or writing it. The more senses used in imprinting the information in long-term memory, the more likely it is that you will be able to recall the information later. Review is another form of repetition. Without review, most information is lost from memory very quickly.

b. **Memory Aids.** Another common learning strategy is the use of memory aids. Devise methods to help you remember a particular piece of information. For instance, when trying to remember whether to turn a valve handle clockwise or counterclockwise to shut off the valve, many people will use a memory aid or mnemonic they learned in childhood: "righty-tighty;" "lefty-loosey."

   Although memory aids may be helpful when trying to memorize a list of terms or steps, they have some disadvantages. For instance, some lists do not easily lend themselves to making acronyms or mnemonic sentences. Also, if you cannot remember the correct acronym or mnemonic, you will not be able to remember the list. The biggest problem with memory aids is that while they help memorization, they only promote surface level processing. In other words, they do not promote understanding. Assisting the students in developing and searching for a deeper understanding is the most effective way to learn new information.

c. **Active Learning.** Learning should be an active process. The material needs to be engaged for learning to occur. Students will pay attention to what they are trying to learn and not let their thoughts drift to other things. Paying attention, however, is only the first step. They must also think about what they are learning. Students must try to make sense out of the information by looking for relationships, such as categories, similarities and differences, or cause and effect. Students will be given ample opportunities to engage in activities, exercises, and interactions to help them give sense and structure to new information. Examples of things that encourage active learning include participating in games, discussions, or physical activities that increase tactile awareness as well as help the students form associations, which is indicative of deeper processing in memory.

d. **Scaffolding.** Scaffolding is the process of providing successive levels of temporary support that help students reach higher levels of comprehension and skill acquisition that they would not be able to achieve without assistance. Think of scaffolding as teaching guard rails to keep the student on track as they learn. Scaffolding allows the student to begin their learning process with waning levels of support as they demonstrate an increasing level of proficiency. When we connect new information to existing knowledge, we create a web of memories that relate to and support each other. The more ways there are to access information in long-term memory, the more likely we will be able to recall it when necessary, so encourage students to relate

information or scaffold them with new information and processes to previously learned concepts and processes.

e. **Chunking.** Students tend to remember first things and last things best and forget the information in the middle. To take advantage of this tendency (and the Laws of Primacy and Recency), provide instruction in small, related chunks, as it is easier to remember information that is organized into groups – this helps the student mentally organize related information and form subsequent associations. Chunking is also beneficial to advise students to study in 20-to-50-minute chunks of time, centered on a single idea or group of related ideas, with a short break. Chunking information for the purpose of analyzing it also helps students to understand it better. Recommend that students take at least a ten-minute break before studying the next chunk of information to give their brain a break. This strategy allows them to have more beginning and ending points in their learning, taking advantage of natural learning tendencies.

f. **Puzzle Approach.** Most people have assembled a jigsaw puzzle. Generally, people will start the puzzle by finding and fitting together the outside pieces so that they have a frame of reference for the rest of the puzzle. Similarly, when students are learning something new, they will first learn the overarching concept or framework before trying to learn the intricate details. This strategy will help them understand the details later as they consider how they fit within the framework. This approach helps them organize the information hierarchically.

g. **Testing Understanding.** A good practice when learning new information is to put the information in your own words through describing, explaining, or demonstrating the concepts or processes. If you cannot explain or paraphrase information concisely, then you do not understand it. If possible, ask someone more knowledgeable to listen to your interpretation of the information and assess your level of understanding. You can also try your hand at teaching the concept to someone who does not know anything about the topic you are studying – just make sure you are careful and take proper operations security (OPSEC) precautions when discussing sensitive information. Another method is to create a mental picture of the information, then describe the picture. Often, a picture is easier to recall than words as it engages more of the senses.

h. **Applying Information:** The old saying “Use it or lose it” applies just as much to information stored in long-term memory as it does to physical fitness.

How easily we recall information depends a great deal on how frequently we use the information. That is why application and practice are so important. When you learn new information, find opportunities to use it. Not only does frequent use help with retention, but also every time you use the information, you are forming more associations to it within your memory that will help you remember the information later. These associations, in turn, increase your understanding of the information as you see its applicability to a variety of situations.

Effective learning strategies promote retention and an understanding of the information. As a Navy instructor, encourage students to practice the learning strategies listed above, based upon their own learning styles or preferences.

6.6. Learning Styles. There are four learning styles that emerge from the combination of learning preferences along the learning cycle. These learning styles are derived from David Kolb's Experiential Learning Theory (Kolb, 1984), which was discussed in chapter 5. Kolb asserts that people generally prefer a single style of learning, and this is influenced by various factors throughout their development. This style emerges through experiences, which results in preferences regarding whether we wish to do or watch, and at the same time whether we wish to think or feel.

a. **Diverger (Concrete Experience/Reflective Observer).** Divergers can look at ideas from differing perspectives; they prefer to observe perspectives rather than act. Their strengths lie in creativity and imagination. Students with this learning style excel in the ability to view concrete situations from many perspectives and generate ideas after considering perspectives.

b. **Assimilators (Abstract Conceptualization/Reflective Observation).** Assimilators prefer a logical, precise approach to learning, focusing on the information rather than people. Their strengths lie in the ability to understand and create theories. Students with this learning style excel in inductive reasoning and synthesize their ideas together.

c. **Converger (Abstract Conceptualization/Active Experimentation).** Convergers' strengths lie in the practical application of their ideas by solving problems and then using their learning to resolve practical and applied issues.

d. **Accommodator (Concrete Experience/Active Experimentation).** Accommodators strengths lie in carrying out plans and experiments. These students tend to be risk takers and excel in situations requiring a quick decision or adaptation. They rely on others for knowledge instead of doing the actual analysis themselves. If a theory does not fit the facts, they tend to

discard it and try something else. Accommodators solve problems in an intuitive, learning by doing (on the job training) trial-and-error mode.

6.7. Sensory Learning. Sensory learning is the first type of learning that occurs for any human being. Its influence is apparent in children as we watch them develop. Each sense, either singularly or in various combinations, provides a pathway to learning. Each student develops a preference for one mode of sensory input and that preference can be used to help students learn. There are three types of sensory learners.

a. **Visual Learner.** Sight is the most important sense in knowledge acquisition, accounting for as much as 75 percent of our basic learning. Most early learning comes from seeing and imitating. Therefore, instructors would be wise to consider using appropriate visual aids in presentations. For example, visual learners prefer and enjoy graphic illustrations, color coding, maps, written materials to define new concepts, wall charts, drawings and designs, and sitting up close during briefs. Be sure to recognize and accommodate students with any visual impairment(s).

b. **Auditory Learner.** Hearing is the second most important sense in the learning process, accounting for a large percentage of the remaining sensory learning capacity. Instructor speech patterns and volume are critical classroom learning factors. For example, auditory learners prefer verbal presentation of new information, a lecture, a group discussion to hear other points of view, fast-paced verbal exchange of ideas, a good joke or story they can repeat, verbal cues or mnemonic devices to help them remember information, words to accompany a cartoon, and oral reports from working groups. Just as with sight impairments, instructors must accommodate students with hearing impairment(s).

c. **Kinesthetic Learner.** Although it is not normally identified as one of the senses, the phenomenon of kinesthesia is an extension of sensory learning. Think of it as a sensory perception residing in one's muscles, joints, and tendons that gives people a special awareness of their spatial relationship with their surroundings. Kinesthesia is a blend of all senses with psychomotor and perceptual skills. It manifests itself in people's ability to balance or move with coordination. Kinesthetic learners like movement, hands-on experience, gestures while making a point, role-play exercises over discussion groups, shaking hands when meeting or greeting people, trying new things without a lengthy explanation of the activity, frequent breaks, and regular opportunities to change seating or room arrangements. They would rather just do it than talk about it. Learning for people who are kinesthetic

learners involves senses and movement. Remember, students develop their skills through practice and use of movements to form a motor tract which will become a strong memory. Instructors cannot realistically expect students in a welding class to have the coordination to weld the back side of a pipe in the overhead while using a mirror without some practice to first develop the more basic skill of welding.

6.8. Maximizing Learning and Retention. We are constantly learning new things - new names, new procedures, new concepts. The following discussion provides some methods or techniques you can share with students to help them learn new information more efficiently. Retention, with respect to sensory learning, is greatly affected by how the material is presented. Students retain only a small percentage of what they read, hear, or see when material is presented using only these methods. However, when those senses are combined, retention takes a dramatic leap forward. Retention is further increased when sensory learning is combined with active participation in the learning process.

6.8.1. Passive Teaching Methods. Passive teaching methods can present a lot of material in a short period of time and reveal important concepts and content in an organized and meaningful manner. Student retention varies according to the method that is used but using passive methods of teaching alone leads to decreased student retention of material.

a. **Lectures.** They are beneficial to auditory learners.

b. **Reading.** Some students learn best by reading material.

c. **Audiovisual.** Using audiovisual materials can increase student retention because it engages more of the senses.

d. **Demonstration.** Presenting a demonstration associated with the topic can increase student retention even more, and it engages learners who are more kinesthetic.

6.8.2. Participatory Teaching Methods. Participatory teaching methods incorporate more student involvement in the learning process and therefore produce higher retention rates.

a. **Group Discussion.** Group discussion can boost student retention significantly. It involves social interaction and the sharing of ideas.

b. **Practice By Doing.** Practice will increase retention more than discussion alone. Repetition is key.

c. **Teaching Others.** This is the most effective method used to maximize retention rates. This method forces the learner to synthesize and summarize the material in their own words, generate a narrative, and explain it in different ways.

CHAPTER 7
INSTRUCTIONAL METHODS

7.0. Introduction. Instructional methods are educational approaches for turning knowledge into learning. They are the "how to" in the delivery of training. The instructional methods used in any learning situation are dictated primarily by the LOs decided upon by the course designers. In many cases, a combination of instructional methods is used to strengthen the learning experience and satisfy the LOs.

An instructor must understand the various instructional methods available and recognize their responsibilities in effectively applying each one: lecture, lesson, demonstration, role-playing, team dimensional training, gaming and simulation, case study, facilitation, and blended learning. The lesson method and the demonstration method are the two most used methods in Navy training. However, for purposes of this chapter, all the methods are discussed as sequenced above.

7.1. Lecture. The Lecture Method is a traditional instructional approach where an instructor delivers content verbally to a group of students. It is one of the most common teaching methods used in various educational settings.

7.1.1. Characteristics of the Lecture Method

a. **Instructor-Centered:** The instructor is the primary source of information, leading the session and guiding the learning process while students listen and take notes.

b. **Content Delivery:** Lectures often cover a large amount of material in a relatively short time, making them efficient for introducing new concepts, theories, or frameworks.

c. **Structured Format:** Lectures typically follow a structured outline, helping to organize information logically. This can include the use of visual aids like slides, charts, or videos to enhance understanding.

d. **Limited Interaction:** While some lectures may incorporate questions or discussions, the level of interaction is generally lower compared to more participatory methods. The focus is mainly on the instructor's delivery.

7.1.2. Advantages of the Lecture Method

a. **Efficiency:** Lectures can convey a significant amount of information in a short period, making them suitable for covering broad topics.

b. **Expert Insight:** Students benefit from the instructor's expertise and perspective, gaining insights that may not be available in textbooks or other resources.

c. **Foundation for Further Learning:** Lectures can serve as a foundation for deeper exploration of topics through assignments, discussions, or practical applications later.

7.1.3. Disadvantages of the Lecture Method

a. **Passive Learning:** Students may engage in passive listening, which can limit retention and understanding. This method often does not cater to diverse learning styles.

b. **Limited Feedback:** The instructor may not receive immediate feedback on student comprehension during the lecture, making it difficult to address misunderstandings in real time.

c. **Attention Span:** Long lectures can lead to decreased attention and engagement, making it challenging for students to stay focused.

7.1.4. Best Practices for Effective Lectures

To maximize the effectiveness of the lecture method, instructors can consider the following:

a. **Engagement Techniques:** Incorporate questions, polls, or brief discussions to encourage student interaction and engagement.

b. **Visual Aids:** Use slides, diagrams, or videos to reinforce key points and aid visual learners.

c. **Clear Structure:** Present information in a logical order, summarizing key points at the beginning and end of the lecture.

d. **Supplementary Materials:** Provide handouts or supplementary readings to reinforce the content presented in the lecture.

7.2. Lesson. The most often used method of classroom instruction within Navy training is the lesson method. The lesson method is interactive in nature and is primarily used to transfer the knowledge needed to perform skills. This method not only includes audiovisual aids, but it also involves the use of two-way communication (discussion), and instructional activities that enhance learning and the sharing of ideas. The lesson

method involves exactly what its name implies - teaching a lesson - and teaching a lesson involves much more than just presenting information in a lecture-style format.

7.2.1. Key Aspects of the Lesson Method

a. **Interactive Nature:** Unlike traditional lectures, the Lesson Method promotes active participation through discussions and activities, facilitating a deeper understanding of the material.

b. **Instructor Guidance:** Instructors follow a structured guide provided by curriculum developers, ensuring consistency and clarity in delivering content.

c. **Engagement Through Questions:** Incorporating questions throughout the lesson helps stimulate student thinking and assess understanding, while also encouraging participation.

d. **Training Aids:** The use of audiovisual materials is crucial in supporting key points and maintaining student interest. Proper planning and timing are essential for their effective integration.

e. **Class Size:** The Lesson Method is best suited for classes of 5 to 40 students, allowing meaningful participation without overwhelming the instructor or students.

7.2.2. Basic Elements of the Lesson Method

a. **Introduction**

(1) **Creating Interest:** Begin by engaging students with your background and explaining the relevance of the lesson objectives. Highlight the benefits of mastering the material to motivate learners.

(2) **Establishing Expectations:** Set ground rules and clarify what students can expect from the lesson and their responsibilities.

(3) **Building Rapport:** Encourage students to share their experiences related to the topic to foster engagement and participation.

b. **Presentation**

(1) **Content Delivery:** Present material in a logically organized manner, moving from familiar concepts to new information. Use analogies and examples to cater to various learning styles.

(2) **Active Involvement:** Encourage participation through questions, group activities, and discussions. Use training aids strategically to enhance explanations and maintain interest.

(3) **Time Management:** Stay focused on the lesson objectives, ensuring discussions remain relevant and on task to make effective use of the allotted time.

c. **Summary or Review**

(1) **Recapping Key Points:** Briefly summarize the main discussion points without re-teaching the entire lesson. Use questions to reinforce understanding.

(2) **Clarifying Misconceptions:** Address any misunderstandings to ensure students leave with a clear grasp of the material.

(3) **Closing Strongly:** End with positive statements emphasizing the importance of the topic and its relevance to students' roles. Provide a preview of what to expect in the next class.

The Lesson Method is a versatile and effective instructional approach that fosters active learning and knowledge transfer. By engaging students through structured interaction, relevant content, and clear expectations, instructors can create a dynamic learning environment that enhances skill development and prepares students for real-world applications.

7.3. Demonstration. The Demonstration Method is the most widely used instructional technique for teaching skills in Navy training. It encompasses all necessary steps for delivering lessons and helps students learn skills in an effective, sequenced manner. This method includes both a demonstration phase and a performance phase, ensuring comprehensive learning experience.

A demonstration lesson will include the following four elements:

a. **Introduction.** Introductions for demonstrations are like those for the lesson method of instruction. Instructors introduce themselves and create interest in the topic. Any applicable safety precautions for the lesson will be covered in the introduction.

b. **Lesson Content.** Every Navy skill, whether mental or physical, is supported by a body of knowledge that students must understand to perform the skill effectively on the job. Some types of background knowledge are best taught in a standard classroom setting using the lesson method of instruction. Other types require hands-on demonstrations, often conducted in laboratory environments. While certain material can be explained verbally, other content may need to be physically demonstrated to ensure comprehension. It is the instructor’s responsibility to present all necessary background knowledge

before introducing the actual performance of the skill, ensuring that students are fully prepared for practical application.

c. **Instructor Demonstration.** After the necessary background information is covered, the skill is to be demonstrated by the instructor in front of the class. The instructor will show the steps of the skill in a logical sequence, explaining the steps as they proceed and walk through the process of the skill. This will serve as a behavioral model for students as they aim to execute the task.

Use the following techniques when giving an actual demonstration:

(1) **Observe safety precautions.** Tasks such as rigging a safety line, donning a safety mask, or tagging an electrical cable may take a few extra seconds to perform, but this time is not wasted. These actions demonstrate to students the importance of exercising extreme caution when working with potentially hazardous equipment. Instructors set the standard for the class and serv as role models. It is essential to remember that students observe and often emulate the behavior of their instructors, making it critical to always model safe and responsible practices.

(2) **Position the students and training aids properly.** If students are directed to gather around a worktable or a training aid, make sure every student has an unobstructed view.

(3) **Show and explain the operations.** Perform the operations in step-by-step order. Whenever possible, explain and perform the steps (process) simultaneously. Do not hurry; speed is not normally emphasized in performing operations or in moving from one operation to another in the demonstration step. Make certain the students understand the first step before proceeding to the second, and so on. Repeat difficult operations. Pause briefly after each operation to observe student reaction and to check student comprehension.

(4) **Give proper attention to terminology.** Each time a training aid is referenced, the instructor should consistently use the correct terminology for each part. Ensuring that students retain accurate information and vocabulary requires more than simply mentioning terms once. The following strategies can help reinforce understanding and retention effectively:

(a) List the names of parts.

(b) Refer students to any available chart that shows the parts and names of parts.

(c) Conduct a terminology drill on the parts of the training aid while the aid is being assembled or disassembled, as appropriate.

(d) Check student comprehension carefully. During the demonstration step, ask questions that require the students to recall nomenclature, procedural steps, underlying principles, safety precautions, and the like. Watch the class for reactions nonverbal cues and body language indicating lack of attention, confusion, or doubt, but do not depend solely upon visual observations.

d. **Repetition Steps.** When using the demonstration method, instructors should always provide a demonstration step followed by a performance step. Typically, one or more repetition steps should be included between the demonstration and performance phases. When determining the number and type of repetition steps to include, several factors should be considered—most importantly, the complexity of the skill being taught. In general, the more complex the skill is, the greater the need for repetition to help students build muscle memory through practice.

The nature of the skill also plays a critical role. For example, skills involving visual signaling often require an emphasis on speed, but students should first learn to perform the skill correctly before working on increasing their speed. Other skills may prioritize ease of manipulation, conservation of materials, or safety. In all cases, instructors must consider the students' ability to acquire the skill and the amount of time available for training. The following paragraphs describe four types of repetition steps used with good results in Navy schools. Use these techniques as applicable for your learning environment.

(1) **Instructor Repetition Step:** When using this step, repeat the job without noticeable interruptions, restating the procedure and the important safety factors as you perform the steps. This step has two important purposes: to show continuity (how the procedural steps follow each other under actual operating conditions) and to set standards of ease, speed, and accuracy. Related techniques of instruction are as follows:

(a) Introduce the step properly. Motivate the students to pay close attention by explaining the nature and importance of the step.

(b) Perform the job with the proper degree of ease, speed, and accuracy. Streamline your oral explanations to the point that they do not hinder your performance. The proper degree of speed is the standard speed you expect most students to attain by the end of the scheduled practice period. A lower standard may fail to challenge the average and fast learners; a higher standard may cause many students to feel the goal is impossible to reach.

(c) Avoid any activity that might break the continuity of your performance. Unnecessary discussion or too many questions during this step may distract you, as well as the students. However, give students an opportunity to ask questions at the conclusion of the instructor repetition step. More than one instructor repetition step may be required to ensure acquisition.

(2) **Student Repetition Step.** In the student repetition step, select a student to repeat the job. Repeat the procedure and the important safety factors as the student performs the steps. This step will motivate the students by proving they can do the job with the instruction given. It will also help identify areas of instruction that require strengthening or reinforcement.

One of the advantages of this step is the great amount of student interest generated when a student performs the job. The other students will put themselves in the selected student's place and perform the job mentally. Related techniques of instruction are as follows:

(a) Introduce each step properly. Motivate the students to pay close attention by explaining the nature of the step and what the selected student must do. Where appropriate, alter the components of the step or problem to make it sufficiently challenging for them. This forces them to reach back in their memory, and not only recall the information, but translate that recall into the correct motor output. For example, in teaching a mental skill involving computation, setting up the problem as part of the introduction, but always using new values (not those used in your demonstration step) in the problem the student will solve.

(b) Call upon a student from the average learner group to perform the job. Do not choose your best or worst performing student.

(c) Give the selected student adequate directions. These directions will include where to stand, what to do, and how to hold and manipulate

training aids. Direct the student in the use of any other techniques that would benefit the class.

(d) Correct errors but do so in a constructive fashion. Remember that the selected student is under some degree of mental pressure. Give the student an opportunity to correct his or her own errors before calling upon other students to help. When the student has completed the job, provide positive reinforcement and feedback. Positive feedback is important. A disparity of this step is to have the student explain each step and its importance before performing it or as they perform it. Another option is to have the other students tell you what the next step is and why it is important. The instructor can then correct misunderstandings and reinforce the most important information before or while the selected student performs each step.

(3) **Group Performance Repetition Step.** When using the group performance repetition step, the instructor should repeat the job slowly, one step at a time to execute the process, while all the students observe and imitate, one step at a time. Use this step for teaching simple and non-dangerous physical skills, such as knot tying and performing the manual of arms. To use this step, the instructor must be able to readily see the students' movements and they must be able to see the instructor. Also use this method to teach mental skills, such as solving mathematical or maneuvering problems or completing forms. The following are related techniques of instruction:

(a) Position the students properly. Provide an unobstructed line of vision both for you and them.

(b) Introduce the step properly. Explain the general plan. Stress the need for close observation and exact imitation; the need for the students to keep in step and not to get ahead of the instructor; and the need for students to hold and manipulate training aids (if any are used) so that the instructor can easily see each student's work.

(c) Perform the job properly, one step at a time. For the first repetition, explain the movements or operations as they are performed. For subsequent repetitions, use abbreviated directions. Students will benefit if multiple senses are engaged such as sight, hearing, and touch (if they are holding a piece of equipment). Use the technique discussed in the section on the demonstration step: Present

background knowledge; demonstrate; have a student demonstration; provide feedback; repeat as needed.

(d) Correct errors. Call attention to errors, demonstrate the correct movements, and then require the students to repeat the movements correctly. Remember that this is a repetition step only. It does not take place of the performance step, which students practice until they achieve proficiency.

(4) **Coach-pupil Repetition Step.** The coach-pupil repetition step requires you to divide students into small groups. If a group consists of two students, one (as the pupil) performs the job while the other (as the coach) checks the "pupil's" performance. After the pupil has acquired a certain degree of proficiency, they reverse positions. This step is particularly useful in imparting skills in which performance involves potential danger to personnel or equipment; for example, firing small arms or troubleshooting electronics equipment. Use a job sheet with this repetition step. The following are related techniques of instruction:

(a) Introduce the step properly. Assemble the students in one group and give all necessary preliminary instructions. Include the location of each coach and pupil group in the training area, the time allowed each pupil to practice, and the specific duties of each student, both the coach and the pupil.

(b) Position the small groups properly. Make a preliminary check to ensure that all groups are in their assigned positions and that the coach-pupil relationship is being observed.

(c) Maintain adequate supervision. Although theoretically the coaches are acting in the capacity of assistant instructors, they are still students. Maintain close supervision over all groups to ensure the students are observing safety rules and regulations and are making good use of the available time.

(5) **Performance Step.** The performance step occurs after the student has had sufficient practice. Most skills (knot tying, welding, machinery repair, and troubleshooting) result in a finished product. The application of such skills consists of students practicing a procedure until they reach the required standards of ease and precision. The instructor grades the student's demonstration of the skill during the performance step. Normally, speed is not important, but some skills (typing, visual signaling,

radio code receiving) require speed and accuracy. The application of these skills consists of students practicing until they reach the required proficiency in both speed and accuracy.

Broadly speaking, the performance step involves several instructor duties: briefing the students on the application activity and expected standards and proficiencies, organizing the students into working groups, supervising the activity, re-teaching as necessary, evaluating the results, and keeping records. The following instructional techniques elaborate on these duties:

(a) **Give the students a clear understanding of the work required of them.** This includes definite answers to questions about who is doing what, what they must do, and when, where, how, and why they will perform the required work.

- **Who** is doing what? Explain the roles of the students and instructors during the performance step. This is especially important if students are working in pairs or groups.
- **What** must be made, done, or practiced? Tell the students exactly what they must do. For complex skills, supplement oral instructions with instruction sheets - job sheets for physical skills and problem sheets for mental skills.
- **When** should the required work be done? Give specific periods in the class schedule, a specified time limit, or a specific date for work completion.
- **Where** should the required work be done? Tell students whether it is to be done in a classroom, workshop, laboratory, or operating space.
- **How** should the required work be done? Explain the procedures to follow, as well as the style of work, degree of neatness, or degree of proficiency required.
- **Why** should the required work be done? Explain how the work will affect the mission of their unit and the Navy, as well as their future career.

(b) **Provide adequate supervision.** Make sure students follow the correct procedural steps, adhere to safety precautions, observe good

housekeeping rules, take advantage of available time, and develop good work habits.

(c) **Re-instruct the students when necessary.** Teach students to be self-reliant and think for themselves, but if a student gets stuck at some point, help turn the student in the right direction, scaffold them to the solution. If several students appear to be having the same difficulty, call them aside and re-instruct them as a group.

(d) **Evaluate the results.** Determine whether the students have met the required performance criteria. Provide feedback to students regarding their performance to reinforce desired behaviors and correct areas that need improvement.

(e) **Maintain required progress records.** Keep a record of the day-to-day progress of students or give performance tests at periodic intervals and record the results. Even when the curriculum does not specify graded applications, keep some progress records.

7.4. Role-Play. Role-playing involves students actively engaging in a simulated scenario, followed by group discussion. This technique is particularly effective for teaching leadership, counseling skills, and team dynamics. Many Navy positions, especially in supervisory or administrative roles, require both technical expertise and strong human relations skills. The latter can only be developed through practice, which can occur in real-life situations or simulated environments. Simulated scenarios are often preferable, as they allow instructors to observe and correct student mistakes without the serious consequences that may arise in actual situations.

The role-playing method aims to teach human relations skills in a safe, experiential learning environment. Students can engage physically and emotionally with the training material before discussing and applying it. To implement this method:

a. **Describe the Situation:** Begin by clearly outlining the scenario.

b. **Assign Roles:** Select students to portray the main characters, giving them a brief period to prepare their responses.

c. **Enact the Scenario:** Allow students to perform the role-play.

d. **Group Analysis:** After the enactment, facilitate a discussion where the group evaluates the interactions, focusing on what was said and done, how characters reacted, and how different actions could have led to better outcomes.

Successful role-playing encourages active participation from all students and creates vivid learning experiences for both participants and observers. Ultimately, the development of human relations skills relies on practice and repetition.

7.5. Team Dimensional Training. Team Dimensional Training (TDT) is a training method developed by the Naval Air Warfare Center Training Systems Division as part of the Tactical Decision-Making Under Stress initiative. This program was established in response to two tragic incidents at sea in the late 1980s:

a. In 1987, the USS STARK was struck by two Iraqi missiles, resulting in 37 American fatalities, which heightened readiness and tension aboard U.S. military ships in the Persian Gulf.

b. In 1988, the USS VINCENNES mistakenly shot down an Iranian commercial airplane, killing 290 civilians.

These events highlighted the critical need for effective decision-making under stress, leading to the development of TDT.

TDT is a process that permits participants to diagnose and correct their own performance problems, thereby enabling them to adapt quickly to unfolding events, and to learn from and build upon their experiences together – and again taking responsibility for their own learning. This training strategy is often used in shipboard training and by the Afloat Training Groups. Participants include two teams: a team of trainers and/or instructors who set up the parameters of the training exercise, and then serve as observers; and students, who try to meet the objectives presented by the training exercise. The TDT process involves a structured approach, which includes a pre-briefing, observation of team performance, a diagnosis of performance, and a debriefing.

7.5.1. Team Building with Team Dimensional Training. An effective team is crucial to TDT and much of Navy training. A team consists of individuals working toward a common goal, holding each other mutually accountable. Each member's work is interdependent, fostering shared responsibility in problem-solving and decision-making. Successful teamwork requires commitment from all members to achieve shared objectives.

Team learning enhances engagement by encouraging collaboration toward common goals, which is essential for mission readiness in the Fleet.

As an instructor, you can promote effective teams using the following strategies:

a. **Inspire Leadership:**

(1) Assign team members specific goals.

(2) Set a mission statement.

(3) Promote trust in others.

b. **Develop Specific, Measurable Goals:**

(1) Explain what the team needs to achieve.

(2) Provide assessments of goals.

(3) Develop future goals.

c. **Get Commitment:**

(1) Address the obligation to achieve the set goals.

(2) Identify the need of teamwork over self-first thinking.

d. **Use Effective Communication:**

(1) Express thoughts openly, honestly, and clearly to the team.

(2) Listen considerately to others.

(3) Value differences in opinions and perspectives.

e. **Promote Success:**

(1) Give clear directions.

(2) Identify targets clearly.

(3) Measure success by meeting or surpassing goals.

f. **Provoke Environmental Awareness:**

(1) Address possible changes in the direction of work efforts.

g. **Influence Progressive Thinking:**

(1) Develop innovative approaches to challenges.

(2) Build on past experiences from members.

h. **Encourage Recognition:**

(1) Recognize individual efforts and team achievements.

(2) Offer entire team respect.

7.6. Gaming and Simulation. The latest generation of learners entering the Navy has grown up with video games, effortlessly mastering the manipulation of numerous characters in high-stakes scenarios that demand split-second decisions. The popularity of these complex games shows that individuals can learn anything when sufficiently motivated.

Gaming and simulation provide opportunities for learners to make real-time decisions and observe the consequences of those choices, requiring them to apply problem-solving skills. The outcomes often serve as the primary LOs.

The advantages of using games and simulations in instruction are:

a. **Realistic and Risk-Free Practice:** Learners can experiment and learn from mistakes without real-world consequences.

b. **Enhanced Understanding and Retention:** Engaging with content in a dynamic way improves comprehension and memory.

c. **Active Learning:** These methods encourage learners to participate actively rather than passively receiving information.

d. **Sensory Engagement:** The immersive nature of games stimulates interest by engaging multiple senses.

e. **Team Building and Healthy Competition:** Multiplayer games foster collaboration and camaraderie among participants.

7.7. Case Study. In case studies, learners investigate, analyze, and propose solutions to real-world problems encountered in the workplace or during training. This method focuses students' attention on a realistic scenario, which can be either hypothetical or based on actual events. Effective case studies include incidents such as collisions at sea, fires, flooding, grounding, and aircraft casualties.

Typically, case studies are presented in printed format, but they can also be shared through pictures, videos, role-playing, or oral and slide presentations. After presenting a case study, divide the class into groups to analyze key elements, such as the causes of the incident, the crew’s response, and lessons learned from their performance and the surrounding circumstances. Each group should briefly share their conclusions, fostering a discussion about multiple valid interpretations.

The primary objective of analyzing case studies is to help students learn through observation and develop their problem-solving skills. This approach is particularly effective in identifying safety violations that led to incidents and exploring how similar

occurrences can be prevented in the future. Proper planning and organization are essential for achieving successful outcomes with this instructional method.

The case study method combines a well-structured case with the learners' experiences and research to derive solutions or learning outcomes for real or fictional problems. Some examples of case study applications include:

a. **Safety:** Highlighting accidents, injuries, and high-risk jobs.

b. **Process Improvement:** Discussing elements like quality, efficiency, or cost to enhance processes.

c. **Innovation:** Inspiring new product ideas or methods through analysis of past cases.

d. **Maintenance:** Evaluating and refining maintenance practices and best methods.

e. **Leadership:** Teaching students to identify situational characteristics, apply problem-solving techniques, and utilize leadership strategies.

In Navy training, case studies primarily aim to cultivate critical thinking, analysis, problem-solving, and experiential learning. Critical thinking encourages learners to question assumptions and engage deeply with topics. Analysis prompts students to leverage research and experience to achieve learning goals. Problem-solving involves defining and addressing challenges, while experiential learning focuses on deriving meaning from direct experiences.

7.8. Facilitation. Facilitation is a method of delivering instruction which places the responsibility for learning on the student through contribution in small groups led by a leader (facilitator) who serves as a role model for the students throughout the learning activity. The leader is an instructor who facilitates role modeling, counseling, coaching, learning, and team building in the small group.

7.8.1. Instructor Facilitation Role. In the instructor facilitation role, the instructor does not play the traditional role as a presenter of knowledge with all the answers for the learners to simply receive. Instead, the instructor will put the learners in charge of their own learning and become a learning resource. In Navy training, a facilitator's role is to guide or make learning easier, both in content and in application of the content to the job.

When serving as facilitator versus traditional instructor role, the instructor must:

a. Make the learner the center of instruction.

b. Give the learner as much control over the learning process as possible.

c. Act as a "Guide on the Side" instead of a "Sage on the Stage."

The purpose of facilitation is to empower students to take an active role in their learning and achieving the LOs. Facilitation leverages existing student knowledge and/or skills to create synergistic learning experiences.

Instructors must provide and maintain a supportive and challenging environment that assists learners in meeting goals, outcomes, and objectives. Facilitators of learning must become proficient in the use of constructive feedback and positive reinforcement. Instructors can remove or lessen anxieties by clearly describing expectations up front for participants and establishing group norms. An example is the facilitator letting participants know that active participation is encouraged, divergent opinions are welcomed, and that faculty members are there to help them learn.

Classroom facilitation is both a science and an art. The science part is the awareness of what else is going on in and around the discussion. The art part, for trainers, is knowing themselves and how to manage the unpredictable. The trainer certainly should know what the group expects to get out of the discussion and whether that is an achievable goal. Being aware of the context helps the trainer direct the flow of the discussion.

Becoming an effective facilitator requires practice, although good facilitators possess a certain intuition. They know, for example:

d. **When to ask a question.** Questions are used to guide discussion. A good facilitator will know when to ask questions to keep the discussion going.

e. **What questions to ask.** Facilitators must know how to keep the discussion on track with learning outcomes.

f. **When to be silent.** The facilitator must allow the students to work through the discussion with minimal interaction.

g. **How to challenge a statement.** Facilitators must know, and understand the subject or policy being discussed. Learners must be made to feel comfortable enough to speak freely. However, facilitators must be able to correct any discussion that does not line up with policy or that is wrong. A facilitator must be able to challenge or confront without offending or shutting down a student.

h. **When to remain neutral.** When the facilitation is not intended to sway discussion toward one outcome, a facilitator must know when to refrain from adding their opinion.

Here are some quick tips to help develop your role as a facilitator.

i. Create an open environment by encouraging people to participate in the learning and by maintaining participants' self-esteem.

j. Set guidelines for learners' participation by respecting others' thoughts and ideas, ensuring that there are no unnecessary interruptions, and staying on topic.

k. Acknowledge people who participate by praising and thanking them for their contributions and encouraging them to continue to participate.

l. Create transitions between questions asked and answered by participants, as well as between topic areas ("That answer was right on target. Does anyone else have a thought?" Thank you, Petty Officer Smith, for your question. This leads us to a second issue I'd like to raise....").

m. Be honest about what you know and don't know and acknowledge what opinion is and what is fact.

n. Express an opinion when appropriate but make sure participants' feelings and opinions are not being judged as invalid or wrong.

o. Give everyone an opportunity to participate but never force anyone to.

p. Keep the discussion flowing and on target while recognizing when to end a discussion and move on.

q. As with other facilitation training, instructors must prepare for a facilitation event. Before starting the facilitation, consider the following:

(1) **What is the purpose of the training session?** If the topic is a need to know, not just a nice to know, the facilitator should work at least some time for questions during the discussion.

(2) **How much time is available to deliver the content?** Ensure you manage your time wisely so that you can cover all the content to ensure you have achieved the lesson goals.

(3) **How large is the group?** A large, exciting group plus limited time often leads to many comments. If the trainer starts with a discussion session, he or she should set a time to stop and stick to that time.

7.8.2. Guided Discussion. Guided discussions provide an open forum for active participation from the students and proper facilitation from the instructor. The guided discussion method engages learners and capitalizes on prior experience to offer peer-

to-peer interaction about a topic or problem, or to seek possible available evidence on a solution though communicating and sharing ideas. When using guided discussion as a method, it is important to ensure that organization of the learning environment (e.g. seating arrangement) is considered to allow all participants to have eye contact with each other. If needed, review the seating arrangements located in Chapter 3, Managing a Classroom.

7.8.3. Small Group Facilitation. Small group facilitation learning is the use of facilitator-led groups of 8 to 16 students to assist one another in learning to apply their collective group knowledge and skills to accomplish facilitator-assigned objectives.

Small group instructional strategy is effective when instructional materials are prepared to allow a group of learners to work through problems structured by the instructor/group facilitator. The students have considerable independence to choose their own learning materials and pace of learning. Small group learning is also especially effective for mastering those skills which require several people to work together to solve complex problems. It is a very useful tool in training experienced personnel when consensus and commitment to implement change are important elements of the training.

7.8.4. Facilitation Techniques. There are five key techniques that are necessary for facilitation. Keep the following in mind.

a. **Managing discussion.** Remember to manage the discussion during the facilitated event and not to teach. Always guide discussion toward the objectives, goals, or policy. When presenting activities, give directions to the activity first. The instructor as facilitator should continuously have the objective in mind while guiding the discussion toward that objective by prompting, refocusing, and redirecting the conversation as needed. At no point should the facilitator let the discussion get off topic. When working with any group, make sure to manage group dynamics to encourage collaboration. This includes monitoring class climate and reminding students of the class norms when necessary. Ensure everyone is given the opportunity to participate. At the end of the event, perform a summary to recap.

b. **Asking questions.** Questions are used to initiate discussion. Thought-provoking questions should become an essential part of the overall presentation. Open-ended, hypothetical, and polling and canvassing questions are three types of thought-provoking questions that should be used in facilitation.

Because open-ended questions require more than a one-word answer, they enable participants to get involved and express their thoughts and feelings. For example, asking "What do you think about _____?" will require learners to engage much more fully than yes/no questions.

Hypothetical questions are used for getting people to think in situations where many different answers may be valid. They often start with "What if..." Polling/canvassing questions can engage the entire class and spur discussion.

Information can also be pulled from the learners using these additional facilitation questioning techniques to further the discussion (See Chapter 2 The Navy Instructor):

(1) Calling on non-volunteers.

(2) Prompting.

(3) Seeking further clarification.

(4) Refocusing.

(5) Reversing.

(6) Redirecting.

c. **Transitions.** Effective facilitators use transitions to move between questions and answers on the same topic as well as between different topics. Transitions are important because they help the discussion flow smoothly and make it easier for learners to participate in the discussion.

Silence. In some societies, even short periods of silence have a way of making people uncomfortable. Nevertheless, silence can be an excellent facilitation tool because it creates just enough tension to get people thinking about a posed question. When asking a question, give people some time to think their ideas through and formulate responses. Silence can also be used when participants do not respond. Instructors should not just move on to other questions. Instead, try rephrasing the question or asking a follow-up question along the same lines as the first. Instead of just asking a question, present a hypothetical problem, issue, or scenario.

d. **Active Listening.** Effective facilitators are also good listeners. Active listening is especially useful during discussion sessions. It requires concentration and not only listening to the verbal message but also paying attention to the underlying emotion expressed by the person who's speaking.

Underlying emotion is often reflected in the tone of the person's voice or inflection. They may also be transmitted in nonverbal messages, such as facial expressions and gestures. The underlying message usually reflects the true meaning of what is being expressed. Others may not be comfortable expressing their views in public for cultural or personal reasons.

7.9. Psychological Safety. Learners need to feel psychologically safe participating at whatever level is comfortable for them. The term psychological safety refers to the creation of classroom environments in which the student experiences:

a. Willingness to face the potentially threatening discrepancy between current behaviors and ideal behaviors.

b. An ability to experiment with new behaviors and courses of action without fear of censure.

c. There are many benefits to students from psychological safety. Students will have an increased willingness to take risks and express themselves more freely without fear of judgment. They will also be more likely to see other students' perspectives. Psychological safety can even change negative attitudes and behaviors.

Psychological safety does not provide blanket permission to do or say whatever one wishes. It also does not violate military protocol; nor is psychological safety tension free or conflict free. Different opinions are expected and encouraged because discussions result in a better understanding of issues and concepts. As an instructor, it is important to foster a classroom environment that is psychologically safe but also encourages the sharing of differencing opinions and healthy/productive debate.

7.10. Blended Learning. Blended learning delivery method combines two or more instructional methods into a cohesive learning program. In the Navy, the most common form of blended learning integrates classroom instruction with Self-Directed Interactive Training. Typically, this occurs in an ECR environment. Examples of blended learning formats include:

a. Lesson method mixed with IMM.

b. Synchronous and asynchronous online training.

c. Simulations coupled with lesson method.

d. Simulations and facilitation.

In a typical Navy blended learning environment, instructors and students are physically present in the same location while also utilizing e-Learning resources. Instructors guide

lessons through a combination of traditional classroom methods and IMM, or CBT content delivered via individual student workstations on the intranet. This differs from distance learning, where the instructor is not present in the same classroom as the students.

The purpose of the Blended Learning Delivery Method is to leverage both the standardization and techniques of IMM alongside the expertise of certified instructors. This approved instructional method includes several key components:

e. Introduction to the topic.

f. Presentation of content using various delivery methods.

g. Monitoring student progress.

h. Practical activities.

Blended learning is primarily utilized to teach concepts, rules, processes, and motor skills, emphasizing a student-focused approach that integrates online and face-to-face learning experiences. The synergy between these modalities maximizes the overall learning process.

Although students typically engage more independently in a blended learning setting, this approach may increase the instructor's workload. As students with varying skill levels work at individual computers, instructors need to move quickly between workstations, addressing questions and providing personalized support. Consequently, instructors must be well-versed in both the software and course content to effectively assist students.

7.11. Lesson-Demo-Blended-learning Characteristics. Lesson, demonstration, and blended-learning share the characteristics below, while Table 8 compares the pros and cons of each instructional method.

a. The introduction provides a topic overview, motivates the student, and builds instructor credibility.

b. The presentation provides information, a time for student questions, instructional activities, and comprehension checks.

c. The summary and review highlight all discussion points and provides comprehension checks.

d. The assignments can include practice items, reviews, long-term projects, or preparation for another class.

e. Applications can vary from paper-based worksheets to using newly acquired skills on the job.

Table 8: Four Most Common Instructional Delivery Methods Comparison Chart

Method	Pros	Cons
Lecture	• Good for introducing a new topic. • Good for covering background information. • Good for presenting to a large group in a short time.	• One way communication. • Students are passive. • Additional methods needed to increase interest.
Lesson	• Best for knowledge transfer. • Can use training aids. • Effective for up to 40 students.	• Effectiveness decreases for large groups due to media visibility issues.
Demonstration	• Best for training a skill. • Best for training a processor step-by-step procedure.	• Not good for knowledge transfer.
Blended learning	• Most flexible. • Synchronous. • Can be conducted in physical or virtual learning space. • Meets different learning styles. • Students and teacher are in the same place. • Student-focused.	• Difficult to teach because an instructor must respond to each student individually. • Uses standardized lessons.

7.12. Distributed/Distance Learning. Distributed learning focuses on delivering instruction to learners who are not in the same physical or geographical location as the teacher or institution. Distributed learning is also known as distance learning. Advances in technology have made distance learning routine in academic, corporate, government, and military settings. For more information, see Chapter 8 Teaching with E-Learning.

Learning Environment Categories. There are two types of learning environments:

a. **Synchronous.** In synchronous learning environments, the instructor and the students all convene and communicate at a scheduled time. Synchronous learning can take place through online communication software such as chat rooms or specialized programs that provide an interface where trainees can interact with the instructor and other trainees on the internet. These often involve web cameras and microphones. Synchronous learning can also be accomplished via non-computer means such as phone conferences. The key

concept of a synchronous environment is that the instructor and learners all communicate at a time established by the instructor.

b. **Asynchronous.** Asynchronous learning environments are those where the group or class does not meet simultaneously at an established time. Classes of this type may make use of commercially available online collaborative learning environments (CLE). These packages contain many features such as discussion boards and environment-specific e-mail, as well as the capability to share learning materials with one another.

It is not unusual for distance learning classes to use techniques and features from both synchronous and asynchronous environments. For example, a class may meet online for one hour and communicate via chat and web audio and then use discussion boards and other asynchronous tools for the rest of the week to complete course activities. These courses are sometimes called hybrid or distributed learning classes because they are made up of both synchronous and asynchronous or both real-time and virtual learning environments.

Distributed learning can use techniques and features from both synchronous and asynchronous environments, such as synchronized meetings with discussion followed by weekly individual assignments consisting of discussion board posts and responses. Many of these instructional choices are made by the instructor.

Distributed learning may draw upon resources which are physically distant from the location where learning is taking place and may include the use of one or more of the following media to provide learning at the right-time and right-place such as correspondence course materials, audio, and video teleconferencing.

CHAPTER 8
TEACHING WITH E-LEARNING

8.0. Introduction. The world of teaching and learning is constantly evolving, especially with recent technological advancements that have transformed instructional delivery. No longer is it necessary for instructors and learners to be in the same location at the same time for effective learning to take place. This shift is encapsulated in the concept of e-Learning, which encompasses any educational content delivered, enabled, or mediated by electronic technology for the purpose of learning.

The S2025 initiative, part of the RRL framework, aims to provide the right training at the right time and in the right manner. A key aspect of this initiative is the Modern Delivery at Point of Need, which the Navy supports through the adoption of e-Learning.

While e-Learning involves scientific principles of design and delivery, it also requires an artistic touch to engage learners effectively. In this chapter, the nuances of e-Learning and how Navy instructors can leverage this approach to provide impactful training are explored

8.1. Types of e-Learning Environments. As previously stated, e-Learning refers to any learning that is delivered, enabled, or mediated by electronic technology. e-Learning environments generally fall into three distinctive categories: Web-facilitated, blended (or hybrid), and fully online instruction. These categories are classified according to the amount of content that is delivered online without the physical presence of an instructor.

8.1.1. Web-Facilitated Environments. In web-facilitated e-Learning environments, less than 30% of the instructional content is provided online. While these courses include some online elements, most instruction occurs through synchronous face-to-face interactions in a classroom setting. Common features of this environment include:

a. **LMS Usage:** LMS may be used to share the course syllabus, post assignments, and facilitate communication.

b. **Instructor Interaction:** Email is often utilized for class announcements and communication between the instructor and learners.

c. **Synchronous Instruction:** Both the instructor and students must be present at the same time and place for effective learning to take place.

8.1.2. Blended/Hybrid Environments. Blended or Hybrid e-Learning environments deliver 30% to 79% of the content online. Key characteristics include:

a. **Integration of LMS:** An LMS plays a central role in this environment, facilitating both synchronous and asynchronous learning.

b. **Instructor Interaction:** A significant portion of the learning still occurs through face-to-face instruction, while online delivery becomes increasingly prominent.

c. **Collaborative Learning Tools:** These courses often incorporate CLEs and tools that support both asynchronous and synchronous interaction. These tools enhance peer collaboration and engagement.

8.1.3. Online Environments. Online learning environments are characterized by more than 80% of the course content being delivered asynchronously. This setup allows for true distance learning, making it accessible to learners globally. Notable features include:

a. **Lack of Synchronous Elements:** Typically, online courses do not include any face-to-face instruction, relying entirely on digital platforms.

b. **Self-Paced Learning:** Learners can progress through the course at their own speed, with the ability to start and stop their work as needed. Their progress is saved, allowing them to return to the material where they left off.

c. **Widespread Use:** This method is commonly applied in topics like CMT, including subjects such as OPSEC.

These e-Learning environments offer flexibility and accessibility, catering to diverse learning needs and preferences.

8.2. Unique Characteristics of E-Learning. E-Learning offers distinctive advantages not found in traditional face-to-face instruction. Key characteristics include:

a. **Image-Oriented:** Computer displays provide powerful visual cues that enhance engagement beyond what in-person teaching can offer.

b. **Interactive:** E-Learning creates a dialogue between the learner and the computer, allowing for immediate feedback based on learners' responses.

c. **Immediate:** Learners expect quick responses to their inquiries, with information drawn from the most current content.

d. **Intimate:** E-Learning systems can track individual learners’ progress and preferences, allowing for personalized content that aligns with their interests and knowledge levels.

In general, e-Learning presents several key advantages:

e. **Individualized Learning:** Tailored to meet diverse learning needs.

f. **Accessibility:** Can be utilized anytime and anywhere, provided learners have computer and internet access.

g. **Maximized Connections:** Enhances relationships among learners and resources.

h. **Learner-Driven:** Allows pacing that suits individual learning styles.

i. **On-the-Job Learning:** Can be accessed during work hours as time permits.

j. **Quick Resource Access:** Enables easy online searches for resources at any time.

k. **Space-Efficient:** Does not require additional physical locations.

l. **Geographic Diversity:** Connects learners across various locations.

m. **Immediate Application:** Facilitates prompt implementation of new skills.

n. **Training and Performance Support:** Ensures a smooth transition between learning and practical application.

8.2.1. Advantages of Asynchronous E-Learning. Asynchronous e-Learning is a form of online education that allows students to engage with course materials and complete assignments at their own pace, rather than in real-time. This flexible approach enables learners to access various resources—such as videos, readings, and quizzes—whenever it suits them, accommodating different time zones, personal commitments, and individual learning speeds.

Key features of asynchronous e-Learning include:

a. **Flexible Scheduling:** Students can choose when to study, making it easier to balance education with work or other responsibilities.

b. **Self-Paced Learning:** Learners can progress through materials at their own speed, spending more time on challenging topics as needed.

c. **Diverse Learning Materials:** Courses often include a variety of resources, such as recorded lectures, discussion forums, interactive modules, and multimedia content.

d. **Discussion Boards:** Students can engage in discussions and collaborate with peers and instructors through online forums, allowing for thoughtful responses and reflection.

e. **Assessment Flexibility:** Assignments and exams can be completed within a designated time frame, allowing students to choose when to submit their work.

Asynchronous e-Learning is particularly beneficial for adult learners, remote learners, and those who prefer a more independent learning experience. However, it requires self-discipline and time management skills to be effective.

8.2.2. When Not to Use E-Learning. E-Learning should be avoided if a technology assessment reveals that the existing equipment and infrastructure are inadequate for the necessary bandwidth and other technological requirements. Additionally, it is not suitable when a hands-on approach is essential, such as for training on specific equipment or for practical, OJT that reflects the realities faced by personnel.

8.2.3. Disadvantages of E-Learning. Despite its numerous advantages, e-Learning presents several potential drawbacks that must be considered:

a. **Less Personal Interaction:** E-Learning may feel impersonal compared to face-to-face instruction, lacking social interaction.

b. **Quality Design Requirements:** Effective e-Learning demands high-quality instructional design, which can be time-consuming and costly.

c. **Long Development Time:** Creating effective content requires a significant lead time from identifying needs to delivering the course.

d. **Technical Challenges:** Organizations may struggle to meet the technical requirements for successful e-Learning systems.

e. **Time-Consuming Online Activities:** High internet traffic or bandwidth issues can lead to delays.

f. **Additional Software Needs:** Learners may require plug-ins and extensions for full participation.

g. **Technical Troubleshooting:** Issues may arise that require troubleshooting, complicating the learning experience.

8.3. E-Learning Collaboration Activities. Collaborative learning emphasizes the joint construction of knowledge through interaction, making it a social process focused on sharing ideas. A CLE is one where learners engage in coordinated, synchronous activities to build and maintain a common understanding of a problem. Collaborative experiences in e-Learning can take various forms, including group work in workshops, discussion forums, chat rooms, wikis, and web conferencing tools.

The LMS serves as the primary interface between learners and the CLE. It acts as the foundational layer of the collaborative environment, equipped with features that facilitate collaboration among instructors and learners, as well as among learners themselves. Key features of an LMS may include:

a. Dashboard

b. Course Calendar

c. Private File Repository

d. Message Drop Box

e. Testing Area

f. Grade Book

g. Announcement Board

These tools enhance the collaborative learning experience, making it easier for participants to engage and communicate effectively.

8.3.1. Tools to Use in Collaborative E-Learning. A LMS provides various tools designed to facilitate collaborative learning experiences among learners. The instructor can leverage these tools to create an environment that promotes collaboration and idea sharing, fostering a sense of connection even among geographically dispersed students. Common collaboration tools in a LMS include:

a. **Synchronous Chat Rooms:** The chat module enables real-time discussions among participants, enhancing understanding of both the topic and each other. Features are included for managing and reviewing chat interactions.

b. **Asynchronous Discussion Forums:** Forums allow learners and instructors to exchange ideas by posting comments within threads, which can include files like images and media. Instructors can rate posts and permit learners to rate each other's contributions. Three primary types of forums are:

(1) Standard Forum: Learners see an introductory text above the list of discussions and can start new threads.

(2) Single Discussion: Instructors pose a question, and learners can only reply, helping to keep discussions focused.

(3) Question and Answer Forum: Instructors post a specific question, requiring learners to respond before they can view others' answers.

c. **Collaborative Workshops:** This peer assessment activity allows learners to submit their work and evaluate submissions from their peers based on instructor-defined criteria. The workshop process includes:

(1) Setup: Defining workshop expectations and settings.

(2) Submission: Providing task instructions and deadlines for participants.

(3) Assessment: Learners assess allocated submissions based on set criteria.

(4) Grading and Evaluation: Instructors calculate final grades and provide feedback.

d. **Synchronous Web Conferencing Tools (e.g., Microsoft Teams):** These tools mimic live classroom settings, allowing instructors to observe learners in real time. This interaction facilitates immediate feedback and enables demonstrations of tasks or procedures. However, access issues, equipment compatibility, and bandwidth limitations can affect the effectiveness of web conferencing.

8.4. Best Practices for E-Learning Management. Due to the adaptation of the way learning is being delivered, managing the learner experience in e-Learning is a new skill that Navy instructors will need to develop. Learners will stay focused on the coursework and persevere if an online course is structured to engage them and motivate them. If it is not engaging or motivational, then the course will almost certainly face a motivation problem, and the instructor will find the students disengaged. Here are some suggestions for maintaining interest in an e-Learning course:

a. Ensure that the course content is interesting and as effective as possible.

b. Use motivational techniques and relevance to gain the learners' attention during the introduction and throughout the lesson.

c. Give frequent, personalized, and helpful feedback to each learner through knowledge checks and asking thought provoking questions.

d. Send personal messages to individual participants via email or one-on-one messaging asking specific questions about their situations and progress and offering help. Let them know the instructor is engaged in their learning.

e. Break the major course activities up into reasonably sized stages so that any one part can be completed quickly and keeps the students from being overwhelmed.

f. Help foster learners' self-discipline by establishing firm deadlines and milestones for progress.

8.4.1. Appropriate Interaction with Learners. As in the classroom, active engagement increases attention to, and comprehension of, the content in online learning programs, but the interaction should be appropriate. Appropriate interaction is an exchange between the learner and the online learning program that is relevant to the content. Although some interaction engages the learner, if it is not relevant to the content, it merely distracts learners and, therefore, is not appropriate for the course. As in any

other Navy courses, do not establish a personal relationship with your learners. Maintain military bearing and avoid fraternization.

8.4.2. Appropriate Feedback. When a student responds to a question, the instructor should provide immediate feedback. This is conducted by one of the following:

a. Indicate whether the response was correct.

b. For an incorrect answer, explain why and refer to the source reference.

c. Give a hint to the student or provide instructions on where to find the answer. In the case where a student answers a question incorrectly, the instructor may have them review the portion of the lesson that applies. The student must be led to the source material in the explanation from the instructor.

In some cases when learners answer a question incorrectly, the instructor might have them look at some review material. Ideally, the review sequence provides alternative explanations for the learner.

8.4.3. Tips for Communicating Online Information Visually. One of the primary reasons for using visual images in online learning programs is that images hold the primary responsibility for communicating information online. Images are easier to understand than text and are remembered longer than text by engaging more learning senses and moving information into the learner's long-term memory. Notify your chain of command if you feel visual improvements need be made to your course. These are some tips for effective visual communication to your learners:

a. **Represent Numeric Data Visually:** Although text can convey specific numbers, it can't show how numbers relate to one another as efficiently, quickly, or easily as visuals can.

b. **Visual Cues for Content:** Some concepts are concrete, such as machines, furniture, and geography. Some concepts are abstract, such as processes and symbols. Here are some ways to represent concepts visually:

(1) Ensure appearance or locations of items are displayed visually in illustrations or graphics, e.g. the power switch on a computer.

(2) Procedures should use a flowchart to show the process: how to rebuild a valve, how to operate a RADAR, how to process a supply request.

(3) Relationships should be displayed using visuals such as organizational charts.

c. **Call Attention to Text:** In addition to communicating ideas, visual devices can call attention to specific passages of text. These visual devices can help

build learner interest in the content, differentiate must-know from nice-to-know material, and help learners find specific content easily. Refer to NAVEDTRA M-142.3 for detailed instructions on visual aid requirements.

d. **Effective Use of Visuals:** Although visuals can communicate ideas effectively, trainers should consider several factors to ensure their optimal effectiveness. Dual Coding Theory suggests that people process information through two distinct channels: verbal and visual. By combining words with images, learners can achieve better understanding and retention than by using words alone. Specifically, images presented on a screen should be accompanied by spoken descriptions rather than written text, as this combination can enhance cognitive processing.

   Instructors and instructional designers should prioritize this principle when creating and delivering instructional materials, ensuring that both verbal and visual elements work synergistically to enhance learning outcomes. This integrated approach can lead to deeper understanding and improved retention of information among learners.

8.4.5. Tips for Communicating Online Interactively. The challenge of communicating online is communicating interactively and engaging the students. The instructor creates an open learning space. Online communication is ultimately an exchange between a learner and the computer-the interaction. Interaction refers to the opportunity for learners to provide information to the system and have it responded with appropriate feedback. The most common example of this interaction in an online learning program is a question. The system presents learners with a question; learners respond and receive feedback. The questions can be used as a checkpoint within a section or as a quiz or test at the end of the learning material.

8.4.6. Common Interaction Types:

a. **Objective Questions:** Utilize multiple-choice, matching, and fill-in-the-blank questions.

b. **Drag-and-Drop Exercises:** Learners can reorder steps in a procedure or assemble parts of a product.

c. **Extended Fill-in-the-Blank:** Encourage learners to write longer responses instead of just single words.

d. **Self-Assessment:** Implement pre-tests to gauge baseline knowledge and identify areas for improvement.

e. **Case Studies:** Learners analyze cases, engage with external materials, and respond in writing.

f. **Treasure Hunts:** Direct learners to explore external resources online before returning to the course.

g. **Cooperative Learning:** Foster collaboration between learners working together on tasks.

8.4.7. Skills Needed by E-Learning Instructors. Instructors must cultivate a new skill set tailored for e-Learning environments:

a. **In-Depth Content Knowledge:** Mastery of content is essential for effective distance teaching, especially in understanding learner needs without direct observation.

b. **Managing Adult Learners:** Facilitate meaningful experiences for self-directed learners, providing appropriate support throughout the curriculum.

c. **Establishing an Online Presence:** Instructors must create a welcoming and engaging atmosphere, assess learning, and maintain a conversational tone.

d. **Literacy Skills:** Proficient grammar, spelling, and writing mechanics are necessary for clear communication.

e. **Effective Communication:** Recognize when and how to respond to individual learners and groups to foster interaction.

f. **Learner Management Ability:** Help learners adapt to less structured, independent learning environments, guiding them in completing their tasks.

8.4.8. Preparing E-Learners for Instruction. To ensure learner success in an e-Learning environment, preparation is vital. Here are the best practices for onboarding e-Learners:

a. **Assess Readiness:** Identify motivated, self-directed learners who are comfortable with technology and possess time management skills.

b. **Face-to-Face Orientation:** Conduct an orientation to familiarize learners with the syllabus, technology, and procedures, encouraging questions and peer interaction.

c. **Team Organization:** Form collaborative groups early to promote cooperation and ease the transition into the online environment.

d. **Develop Sound Habits:** Assist first-time e-Learners with time management and routine-setting to enhance their online learning experience.

e. **Writing Skills Development:** Provide guidance on writing for discussion forums, focusing on structure and clarity.

f. **Active Reading Techniques:** Encourage learners to take notes and engage deeply with course content.

g. **Technical Training**: Offer just-in-time training for necessary technologies, ensuring learners feel comfortable with the tools.

h. **Understanding e-Learning Spirit:** Educate learners on the importance of individual and collaborative involvement for effective learning.

8.4.9. E-Learning Instructor Support. To be able to maximize the effectiveness of e-Learning courses, instructor support is a requirement. e-Learning support should incorporate many dimensions because many types of support are needed for the instructor to be successful. These are the types of support required by e-Learning instructors:

a. **Administrative:** Instructional leadership should support new innovations and provide instructors with time and resources to carry out these new instructional practices.

b. **Instructional:** Coaching, mentoring, or in-class support with content, instruction, assessment, classroom management, and the other issues arising from the change should be available.

c. **Peer:** A community of fellow instructors also undergoing the same professional development is a significant source of support. This valuing of another instructors' perspective is a key component of constructivist learning.

d. **Technical:** Expert help on how to use the tool, troubleshooting, and computer support is also key to the success of e-Learning programs.

e. **Teaching Materials:** A cohesive instructional materials package that includes facilitator guides (FG) and student guides (SG) should be provided to the instructor that outlines how to use the tool to achieve the LOs.

f. **Time:** Time for instructors to meet with support staff is critical, as dedicated time for planning the delivery of the e-Learning.

8.5. Assessing E-Learning. The LMS plays a crucial role in managing assessment functions and collecting learner performance data. Effective test design and assessment management are vital components of e-Learning course development. Below is an overview of the testing functions and capabilities typically offered by LMSs.

8.5.1. Learning Management System Testing Functions

a. **Administrative Functions:**

(1) **Registration:** Allows learners to register for online assessments.

(2) **Point-of-Entry:** Learners can enter assessments based on pre-test performance or completed training.

(3) **Assessment Continuity:** Learners can leave assessments and return to the same point later, if applicable.

(4) **Response Documentation:** Tracks learner responses and the time spent on specific items.

(5) **Control Mechanisms:** Manages remediation, feedback, and the number of attempts allowed for assessments.

(6) **Enrollment Management:** Provides options to drop learners from the course as needed.

b. **Performance Tracking:**

(1) **Data Collection:** Gathers data on learner performance in tests and practice exercises to identify progress and problem areas.

(2) **Performance Metrics:** Uses metrics related to error rates and time taken for test items and segments.

(3) **Immediate Feedback:** Offers learners instant feedback on pre-tests, embedded tests, lesson tests, and post-tests.

(4) **Mastery Determination**: Assesses learner mastery of course objectives.

(5) **Reporting:** Generates reports on learner performance metrics for analysis.

8.5.2. Common E-Learning Assessment Types. The most common types of assessments found in LMSs are listed below along with the advantages and disadvantages of each (Table 9).

Table 9: E-Learning Assessment Tools

Assessment Type	Advantage	Disadvantage
Multiple-Choice	• Can be graded automatically and results given to learner quickly.	• Does not readily test higher-level thinking. • Good quality questions can be difficult to create.

Collaborative Workshop Project Assessment	• Peer assessment tool can have members grade each other. • Can assess quality of group final product based on criteria.	• Peer assessments can lead to conflicts in the group. • Time consuming to grade. • Relies on well-defined grading rubric.
Essays	• Tests higher-level understanding. • Allows free expression of knowledge.	• Difficult to grade (time consuming). • Relies on well-defined grading rubric.

8.5.3. Quizzes in Learning Management Systems. The quiz feature in LMSs enables instructors to create varied assessments, including multiple-choice, short answer, and drag-and-drop questions. These questions are stored in a question bank, allowing for reuse across different quizzes. This versatility enhances the effectiveness of gauging student learning and adapting assessments to meet course objectives.

CHAPTER 9
TRAINING COURSE MATERIALS

9.0. Introduction. Training materials are essential tools for instructors to effectively convey knowledge and skills aligned with course LOs. These materials include:

a. **Instructor Guide:** The IG has detailed resources that provide instructions and strategies for delivering content, managing the classroom, and assessing learners.

b. **Student Guide:** The SG has material designed for learners that outlines course content, objectives, and activities, facilitating self-study and comprehension.

c. **Facilitation Guide:** The FG assists in facilitating discussions, activities, and group work, helping to create an engaging learning environment.

Being proficient in using these training materials is crucial for effective instruction. Additionally, the ability to develop and personalize these resources enhances the learning experience by accommodating various learning styles. Personalization allows instructors to tailor their approach based on the feedback received from students and fellow instructors, leading to continuous improvement in training delivery and effectiveness.

9.1. Instructor Guide. The IG is an essential document for instructors during formal training sessions. It serves as a comprehensive blueprint for delivering instruction effectively and consistently. Here are the key functions of the IG:

a. **Ensures Safety and Effectiveness:** The IG prompts instructors to consider all necessary factors to conduct lessons safely and effectively, minimizing risks during training.

b. **Guides Lesson Activities:** It provides step-by-step instructions for conducting lesson activities, ensuring that instructors follow the planned sequence and depth aligned with course objectives.

c. **Monitors Progress:** The IG enables instructors to track their activities and assess students' progress throughout the lesson, allowing for timely interventions if needed.

d. **Standardizes Instruction:** By providing a uniform approach to teaching, the IG helps maintain consistency across different instructors and sessions, ensuring all learners receive the same quality of instruction.

e. **Informs Training Managers:** The IG serves as a reference for training managers, detailing what content is being taught and how it aligns with overall training objectives.

For detailed information on the structure and components of an IG, refer to NAVEDTRA M-142.3.

9.2. Student Guide. The SG is an essential tool for learners, paralleling the role of the IG for instructors. Its primary functions include:

a. **Guidance Through the Course:** The SG leads students step-by-step through the course material, helping them understand the structure and expectations.

b. **Supplemental Material:** It directs students to additional resources and materials that enhance their learning experience.

c. **Structured Notetaking:** The SG often includes outlines and frameworks for effective notetaking, helping students organize their thoughts and retain information.

d. **Visual Aids:** It contains diagrams and illustrations that clarify complex concepts and reinforce understanding.

e. **Application of Skills:** The SG provides opportunities for students to apply their newly acquired knowledge and skills through exercises and activities.

For detailed information on the structure and components of an SG, refer to NAVEDTRA M-142.3.

9.3. Facilitation Guide. FG is intended for use by certified training facilitators, typically designated at the command level. It provides comprehensive instructions for creating a conducive facilitated learning environment and includes seven key sections:

a. **Goals of Training:** Outlines the primary objectives and key takeaways of the training program.

b. **Facilitation Instructions:** Details the necessary media preparations and other instructional considerations to effectively conduct the training.

c. **Facilitation Selection Criteria:** Describes the criteria and process for selecting facilitators.

d. **Format and Key Elements:** Explains the structure of the FG and includes a legend for understanding the icons used throughout the document.

e. **Do's and Don'ts:** Offers practical tips for facilitators to ensure successful facilitation experience.

f. **Training Environment Setup:** Provides guidance on class size, classroom arrangement, and equipment requirements for effective training.

g. **FG Lesson Instructions:** Contains detailed information, including screen numbers/titles, graphics, scripts, questions with suggested answers, and notes on facilitator actions.

For detailed information on the structure and components of an FG, refer to NAVEDTRA M-142.3.

9.4. Personalizing Training Materials. The IG, SG, and FG are the primary documents instructors use to instruct students. Instructors can add information manually to the IG and FG to optimize training delivery. This is known as personalization.

Instructors are provided with a copy of the approved IG for the course upon assignment. It is important, however, that the instructor add their own personalization to each of the five elements of the lesson topic and tailor the IG to your style of teaching. IG personalization provides the information required to make the instruction personalized without deviating from the approved course of instruction.

Let us look at some ways to personalize your lessons.

9.4.1. Instructor Guide/Facilitation Guide Personalization. Personalization of IG/FG includes adding subject matter detail needed to cover the topic discussion points to the required depth. The instructor may also want to add notes to indicate when and how to stress a point, relate a personal experience, or use an example or analogy. In other words, the instructor provides supplemental material to support the points they are making. When personalizing the lesson, instructors must keep in mind that the Navy policy on copyright, which is to always ask permission before using copyrighted material. Here are some things instructors may include to personalize IGs/FGs:

a. **Subject Matter Detail/Technical Information.** Use this type of information to provide technical data such as purposes, descriptions, facts, operations, functions, and technical data. Course reference materials provide this information.

b. **Instructional Strategies and Methods.** Use carefully written questions, well-planned visual aids, or additional student/instructor activities to enhance the lesson. Transition and bridge statements should also be added between teaching and discussion points.

c. **Personal Experience.** Whenever possible, the instructor should relate their own on-the-job experiences to the lesson to increase student interest. Relating personal experiences enhances instructor credibility and has the

positive effect of reinforcing the practical application of the material, while serving to increase student interest and motivation.

d. **Examples and Analogies.** Whenever possible, instructors should enhance the key points of the IG with practical, real-world examples and analogies to simplify the concepts. For instance, if the lesson covers how sound waves travel through air and students have difficulty understanding the concept, an analogy such as, "It's similar to how ripples spread when a stone is dropped into water," can help clarify the idea. This approach makes the concept more relatable and allows students to form a mental connection.

Additionally, it is crucial for instructors to incorporate the Navy's Warrior Toughness program into the IG, tailoring the content to make it more personalized and effective. The Warrior Toughness program is designed to help service members build mental resilience and enhance their ability to thrive under stress. By incorporating principles from this program, instructors can encourage students to develop a mindset that helps them overcome challenges, stay focused, and maintain a positive attitude even in difficult situations. This integration not only boosts the effectiveness of the IG but also aligns with the Navy's commitment to developing strong, resilient individuals who can perform at their best in high-pressure environments.

9.4.2. Personalization Steps. To personalize your IG effectively, follow these steps:

a. **Step 1 - Read**

(1) Understand what students are to accomplish in the lesson (via the LOs).

(2) Research discussion points in reference publications.

(3) Add the required support developed from instructor research for each discussion point.

b. **Step 2 - Observe**

(1) When possible, instructors should observe a certified instructor's presentation of the lesson and discuss it with him or her before personalizing the topic for instruction.

c. **Step 3 - Personalize**

(1) Personalize the IG. By understanding the requirements of the objectives. This allows the instructor to express the information in their own words, making it easier to effectively present the lesson.

(2) update personalization as necessary.

(3) Review IG personalization often and with a mentor for completeness and accuracy each time the course is taught.

(4) Make note of what worked well and use it again. Change what did not.

Remember that personalization is subjective. Personalization is used by the instructor to emphasize important information via personal accounts and sea stories, sketching on a whiteboard, as well as posing questions to the students. Much like academic counseling, include Warrior Toughness into the personalization. Draw attention to the personalization in the IG by using asterisks, stars, highlighting, arrows, or circling information.

CHAPTER 10
ASSESSMENTS

10.0. Introduction. To assess the effectiveness of instruction, it is crucial to evaluate learners. In Navy training, a variety of assessment tools - such as pre-tests, quizzes, and formal tests - are utilized to measure student learning and comprehension of the course content. These assessments are essential for determining whether students possess the necessary knowledge and skills to meet the established course LOs.

The Navy's schoolhouse testing program serves multiple purposes, including:

a. **Student Learning Achievement:** Evaluating the extent to which students have grasped the material.

b. **Student Satisfaction:** Gathering feedback on the learning experience.

c. **Instructor Evaluation:** Assessing the effectiveness of teaching methods.

It is the Navy instructor's responsibility to implement these assessments as part of training delivery. Understanding the concepts outlined in this chapter will equip the instructor to fulfill assigned duties within the Navy's schoolhouse testing program and ensure that instructors can accurately determine when learners have achieved the course LOs.

10.1. Instructor's Roles in Testing Programs. Navy instructors play a vital role in the implementation and management of testing programs. Instructor's responsibilities include the following key tasks:

a. **Executing the Testing Plan:** Carrying out the established testing procedures as outlined in the curriculum.

b. **Administering Tests:** Ensuring that tests are conducted in a fair and standardized manner, adhering to Navy protocols.

c. **Analyzing and Maintaining Test Results:** Regularly reviewing and assessing test outcomes to monitor student performance and program effectiveness.

d. **Performing and Maintaining Test Item Analysis:** Evaluating the quality and reliability of test items, ensuring they accurately measure student understanding.

e. **Security of Testing Materials:** Safeguarding all test materials to prevent unauthorized access and ensure the integrity of the testing process.

f. **Security of Student Testing Records:** Protecting the confidentiality and security of student test results and personal information.

g. **Monitoring and Validating Test Item Bank Currency:** Assist with keeping the test item bank updated and relevant by contributing to the development of new assessment tools. Propose effective test items based on instructional goals.

h. **Providing Feedback on Testing Issues:** Offering insights and suggestions for improving testing processes and addressing any issues that arise.

Instructors are primarily responsible for the administration and oversight of formal tests, making the role critical to the success of the testing program. After the curriculum has been validated, instructors also share responsibility for the maintenance and security of tests and test items. When appropriate, the instructor may recommend improvements in test items and testing procedures to the course supervisor (CS). For further guidance on test development and analysis, refer to NAVEDTRA M-142.4 Volume II.

CHAPTER 11
ACADEMIC INTERVENTION

11.0. Introduction. The primary goal of all Navy instruction is to enable students to meet the objectives of training to better serve the Fleet and America. As with any training event, no one gets all of it right the first time. Students may have difficulty meeting some or all of the LOs. When this occurs, the student's instructor must intervene as soon as possible to identify and address the obstacle preventing the student from succeeding. Forms of effective intervention include remediation, academic counseling, and when warranted, participation in an Academic Review Board (ARB).

Despite our best efforts, learning does not always occur as intended. Some learners have obstacles to their progress that take specific processes to uncover. ARB is often the last chance that Navy instructors must keep students in the course and enable them to successfully meet the learning/performance objectives and graduate the course. ARB is designed to identify whether a student can satisfactorily complete the training. Knowing the purpose and operation of the ARB will help Navy instructors utilize it to best serve the needs of both the students and the Navy.

11.1. Remediation Program. Remediation is a plan to identify and address problems a student may be facing in their training. Remediation is sometimes necessary because not all students will accomplish critical LOs or understand the material during normal classroom time. Remediation is designed to assist students who need extra help grasping key concepts or accomplishing critical learning/performance objectives. Remediation programs have two goals. The primary goal of remediation is to motivate and assist students in achieving the critical LOs of a course by providing additional instruction, study time, and practice. The second goal of remediation is to remove barriers to learning.

The following guidelines apply to the development and implementation of a remediation program:

a. Remediation will be used to assist and motivate the student in the learning process.

b. Remediation will not be conducted in a manner that can be perceived as discipline. When students placed in remediation are made to feel like failures or see remediation as a form of punishment, remediation may become ineffective. Remediation should be presented in a positive manner.

c. Remediation can be an important part of a student's success. Therefore, instructors trained in the subject area in which a student is having difficulty will be present during remediation.

d. Remediation and retesting procedures will be described in each course's testing plan.

11.2. Instructor Roles in the Remediation Program. Instructors will view remediation as an opportunity to offer extra support to students who need or request assistance. The following outlines the key responsibilities of an instructor:

a. Facilitate remediation sessions for students.

b. Recommend students for ARB/remediation to the CS.

c. Act as a SME during remediation, as assigned by the CS.

d. Serve as a member of the ARB if appointed by the CS.

For further guidance on the administration and implementation of the remediation program, refer to NAVEDTRA M-142.4 Volume II.

CHAPTER 12
INSTRUCTOR QUALIFICATION, CERTIFICATION, AND SUSTAINMENT

12.0. Introduction. This chapter outlines guidelines regarding the qualifications, certifications, and sustainment processes for Navy instructors. These instructors may include officers, enlisted personnel, federal service members, and contractors, all of whom play a crucial role in the training of Navy personnel. The focus is on ensuring standardization in the preparation and development of these instructors to maintain effective and consistent training delivery across the Navy.

Here's a brief breakdown of the key definitions:

a. **Qualified Instructor:** A Qualified Instructor has met the essential criteria required for an instructor role. This includes completing formal instructor training, undergoing a screening process, and demonstrating the prerequisite skills. This qualification allows the individual to be assigned as an instructor within the Navy training system.

b. **Certified Instructor:** A Certified Instructor goes beyond the basic qualification. They have demonstrated proficiency and expertise, particularly in teaching specific courses or components of training. Certification is typically earned after completing the required formal training and being assigned to a training command, where the instructor proves their ability to teach and lead effectively in a formal training environment.

These definitions highlight the dual process of preparing Navy instructors: first by qualifying them with the foundational knowledge and skills and then certifying them to ensure they possess the expertise needed to teach specific training courses to Navy personnel. This structured approach helps maintain high training standards and readiness across the Navy.

12.1. Instructor Qualification. All personnel assigned as instructors at NETC commands (or formal schools) must meet the following prerequisites and maintain them throughout their tour:

a. Complete and graduate from NITC.

(1) Enlisted personnel earn NEC 805A.

(2) Officers receive a Navy Officer Billet Classification code.

(3) Specialized courses, such as Nuclear Instructor Qualifications (A-661-0108, A-661-0109, or A-661-0110) and Naval Special Warfare High-Risk

Instructor Training (K-431-0300), which meet specific needs. Waivers for equivalent instructor training can be requested through NETC N71.

(4) Training commands can request quotas for NITC from NETC if personnel have not attended it enroute to their new duty station.

b. Officers must comply with MILPERSMAN 1301-226.

c. Enlisted personnel must comply with MILPERSMAN 1306-953.

d. Training commands can request quotas for NITC from NETC if personnel have not attended it enroute to their new duty station.

e. For Interservice Training Review Organization courses, instructors must meet qualification requirements per Interservice Executive Order 2002-02.

12.1.1. Regain Qualification. Returning instructors with NEC 805A (or NEC 9502) who have been away from instructor duty for over five years must complete the current version of NAVEDTRA 14300. Training for the NAVEDTRA 143000 is also available on Navy e-Learning (NeL).

12.1.2. Contract Instructors. The following guidelines pertain to contract instructors only:

a. Performance Work Statement (PWS) Preparation - Ensure PWS includes language specifying qualification criteria for contract instructors.

b. Qualification - Contract instructors must have completed one of the following:

(1) Military service ITC.

(2) Instructor training via an academic institution.

(3) Academic credentialing (e.g., teacher or professor).

c. Academic ITC: At minimum, must cover the following:

(1) Effective communication.

(2) Adult learning theory.

(3) Instructional delivery methods.

(4) Lesson delivery performance.

(5) Training environmental management.

(6) Interpersonal skills.

(7) Evaluation and feedback.

d. Training activities must ensure any contract instructor has met the qualification criteria articulated in this instruction.

12.2. Roles and Responsibilities

a. **Learning Center (LC) Director of Training (DoT)/LSO:**

(1) Provide oversight for qualification, certification, and sustainment programs.

(2) Establish additional course-specific instructor certification criteria as needed.

(3) Assist remote LSs with instructor certification via augmentation strategies:

(a) Assign personnel from the LC or establish an agreement with another LS to provide expertise and assistance for a site lead to execute the certification processes.

(b) Assign collateral responsibilities at another LS to provide direct instructor certification program assistance or oversight to other LSs.

b. **LS Commanding Officer (CO)/Officer in Charge (OIC):**

(1) Provide oversight for qualification, certification, and sustainment programs.

(2) Attends at least one spot check of training (conducted by a qualified Instructor Evaluator) per quarter. Attending spot checks is to gauge how successful the Instructor Program is working to build and mentor the instructor staff's related skills, technical proficiencies, and instructor techniques.

c. **LS Training Director:**

Ensure administrative policies and procedures, curricula, instructional methods and techniques, qualifications/certification of staff, ARBs, MTS Program, training aids and equipment, testing/analysis, and student counseling are implemented.

d. **LS Field LSO/Field Training Specialist:** Oversee qualification, certification, and sustainment programs at LSs.

e. **LS CS:**

(1) Manage the qualification and certification of assigned instructors.

(2) Develop Certification Plans (CP) and IDP for each prospective instructor based on NETC policy, considering their prior experience and knowledge. See Appendix A and B for example of a CP and IDP.

(3) Maintain Instructor Training Records that documents at the minimum:

- Instructor evaluations.
- Qualification (9502/805A).
- Designation letters (course certification, MTS coordinator, etc.).
- In-service training (IST).
- Special waivers.
- Special request chits.
- Podium hours.
- Miscellaneous (personnel qualification standards (PQS), commendations, etc.).

NOTE: For a training activity situated within the locale or facility of another command (Navy or Joint) with an existing instructor certification program, the training activity may establish an agreement to participate in that host command's program.

12.3. Minimum Certification Requirements. Certification begins immediately after qualification and upon arrival at the instructor's duty station. Instructors must:

a. Complete the LC and LS indoctrination checklist (1500/3) and retain in the instructor's training record. An Instructor Indoctrination Checklist can be access at https://www.netc.navy.mil/Resources/NETC-Directives/#netc-forms.

b. Review curriculum materials and observe a certified instructor(s) delivering an entire or selected portion of a course, module(s), lesson(s), or section(s) in the classroom or laboratory (as applicable), to gain insight to technical content and instructional delivery techniques and strategies.

c. Personalize assigned lesson materials. Personalization will be reviewed and approved periodically by the CS.

d. Practice-teaching with a certified instructor in the entire or selected portion of a course, module(s), lesson(s), or section(s) for which certification is to be granted.

e. Demonstrate proficiency in My Navy Portal, the LMS, and CeTARS.

f. Receive satisfactory evaluations on a minimum of two separate events while practice-teaching (one technical and one technique) as outlined in the CP and IDP.

g. Attend and complete scheduled IST within the scheduled periodicity.

h. Complete the certification within three months from reporting onboard. Deviation from this policy must be approved by LS CO or OIC.

i. OPNAVINST 1500.75D and NETCINST 1500.13F provide specific guidelines for the qualification and certification of instructors for HRT, which is a course-specific process managed by the cognizant LC and executed by the designated LSs. Before being authorized to teach, the prospective instructor must:

(1) Attend, as a student, the high-risk segments of the course for which certification is to be granted.

(1) Complete additional certification requirements, as outlined in NETCINST 1500.13F.

(2) Participating in IST (Appendix C).

12.4. Evaluation of Instructors. Instructor Evaluation Checklist and Staff/Student Survey Feedback (online or other feedback collection instruments) will be used to assess instructor performance and identify opportunities for training improvement. The Instructor Evaluation Checklist provides a comprehensive list of elements to be evaluated covering a wide variety of training delivery methods (e.g., platform, lab, and facilitation). LCs may add additional elements to the checklist to develop instructor evaluation forms based upon their specific needs and methods of training delivery. An Instructor Evaluation Checklist (1500/4) can be access at https://www.netc.navy.mil/Resources/NETC-Directives/#netc-forms.

a. The DoT or LSO at each LC is responsible for overseeing the Instructor Evaluation Program at all its LSs. LSs are responsible for ensuring the provisions of the Instructor Evaluation Program are adhered to and maintained. Instructors will be evaluated, at a minimum, semi-annually. Instructors achieving MTS, whose designation is current, may be evaluated annually.

b. LC staff and management must participate in unscheduled evaluations or spot checks to the greatest extent practicable. Additionally, all high-risk instructors must be evaluated quarterly (not to exceed 90-days) by means of an unscheduled evaluation (spot check) per OPNAVINST 1500.75D and NETCINST 1500.13F.

c. LCs must establish guidelines for the certification and designation of instructor evaluators. At a minimum, a prospective instructor evaluator will team with a designated instructor evaluator to ensure instructional standards are achieved and maintained.

12.5. De-certification of Instructors. Instructors failing to maintain original qualification requirements as well as instructors receiving unsatisfactory evaluations must be decertified. Individuals considered unsuitable for continued instructor duties, per MILPERSMAN 1306-953, must be reclassified (NEC 805A removal process and reassignment); additionally, cognizant LCs will have the authority to establish other criteria that constitute decertification of their instructors. When appropriate, LCs may recertify individuals when deficiencies have been corrected, or standards met by cognizant LC guidelines.

12.6. Instructor Sustainment. Information on training and instructional development and sustainment is available via LC or LS IST resources. Appendix C outlines requirements for instructors, CSs, and other key training positions to maintain certification. The IST in Appendix C is available via NeL by searching the course catalog for NETC.

12.7. Exemptions

a. Training activity staff personnel, to include executive staff (CO or OIC, executive officer, department head), who are not occupying an instructor billet, do not need to complete the instructor qualification process to conduct course indoctrination lectures or student briefs.

b. In exceptional cases, guest lecturers not meeting standard qualifications may provide unique insights, experiences, or specialized knowledge beneficial to students. The training activity CO or OIC is authorized to approve them with a memorandum for record, subject to a comprehensive review of the individual's credentials, professional experience, and contributions to ensure effective delivery of valuable educational experiences.

CHAPTER 13
MASTER TRAINING SPECIALIST

13.0. Introduction

Education and training serve as pivotal components in establishing and sustaining an organization that is agile, responsive, and adaptable. Leaders in the development, implementation, and oversight of educational and training initiatives are uniquely positioned as specialists and change agents who can influence the Navy's operational landscape far beyond the confines of classrooms and laboratories. The MTS Program is an initiative aimed at cultivating and qualifying personnel who demonstrate advanced knowledge, skills, and abilities essential for enhancing the quality of education and training within the NETC domain. Individuals who earn the MTS designation are expected to assume leadership roles where they will mentor, instruct, and evaluate fellow instructors, in addition to developing comprehensive curricula.

13.1. MTS Definition and Purpose

An MTS is a certified Navy Instructor (805A) who has demonstrated mastery of the art of delivering quality education and training within the NETC domain; possesses superior knowledge and understanding of the PADDIE+M model as implemented in the NTP; assumes leadership roles to mentor, instruct, and evaluate fellow instructors; and is a subject matter expert of the NTP. MTS are considered “the best of the best” in navy education and training and must be employed by NETC commands to continuously improve and advance the knowledge, skills, and abilities of the Navy’s warfighters.

Individuals interested in participating in the NETC MTS program must complete the requirements outlined in NAVEDTRA 43100-7H after command Instructor certification and qualification. The program mandates adherence to both online examinations and oral board evaluations. Officers and enlisted personnel who achieve MTS designation will receive the Additional Qualification Designation (AQD) 2MT or the NEC 8MTS.

13.2. Eligibility Requirements

a. The MTS Program is accessible to all military and civilian personnel within the NETC domain, who meet the qualifications necessary to serve as Navy instructors or equivalent positions. Participants must be assigned to an instructor billet within a NETC training and education command and must have at least six months on board and not less than six months to potential rotation date to qualify for MTS designation. The approval for a candidate's participation must be secured from the CO through a special request chit, based on a recommendation from the command MTS Program Coordinator. Eligible participants include Navy and Marine

Corps Officers, enlisted personnel, and Department of Defense (DoD) civilian employees who are permanently assigned to roles primarily focused on education and training. For any uncertainties regarding eligibility, individuals should contact the NETC MTS Program Manager for clarification.

b. Personnel from other services may also participate if they are permanently assigned to a U.S. Navy training command, provided that their primary duties are Naval education and training.

c. Reservists and Selected Reserve personnel wishing to join the MTS Program must obtain authorization from the CNRFC. They must apply through their respective chain of command, adhering to the detailed procedural instructions provided.

d. Contractors are not eligible to participate in this program.

e. All candidates must complete formal courses of instruction that fulfill the prerequisites necessary to obtain the NEC Code 805A or its equivalent. COs may request waivers from NETC MTS Program Manager for DoD civilians who already possess recognized credentials in education or training as well as other military personnel who have completed service-specific instructor training.

13.3. MTS Personnel Qualification Standards

Candidates must exhibit proficiency in each specified line item of the NAVEDTRA 43100-7H document. Additional criteria unique to individual organizations may be introduced based on recommendations from the command MTS Program Coordinator, subject to CO approval. To maintain the integrity and credibility of the MTS designation across the NETC domain, as well as to ensure its recognition as a high-value qualification program, the established standards will be uniformly applied. The criteria for nomination must be rigorously controlled and monitored.

a. **Written Examination.** The written exam will be administered online through access provided by the NETC MTS Coordinator. MTS Coordinators will ensure all prerequisites are met and required items are completed before granting access to the test. Candidates must wait two weeks between failed attempts. If a candidate fails all four attempts of the MTS online test bank, they must retake the 301 portion of the PQS and wait a minimum of 30 days before reattempting the exam. The exam will be a closed-book, proctored event with one candidate per computer. Commands outside the NETC domain must have .mil access (Navy Marine Corps Intranet seat) to take the test; if this is unavailable, the

NETC MTS Program Manager will determine the appropriate course of action.

b. **Oral Board.** Upon passing the online assessment, the candidate will be scheduled for an Oral Board with at least three MTS-designated personnel. The board will interview the candidate on various parts of the MTS PQS and its references. If the candidate successfully completes the oral board, their designation package will be forwarded for MTS designation recommendation.

If the candidate fails the initial oral board, they must wait two weeks before re-boarding. A second failure will require the candidate to retake the online MTS assessment and restart the board process. As an option, MTS coordinators may choose to conduct a pre-board to assess the candidate's readiness prior to the official oral board.

13.4. Qualification, Recognition, and Documentation Procedures

The authority responsible for designating individuals within a given activity is the CO or OIC. The following guidelines are provided for activities engaged in the MTS Program:

a. **MTS Participating Commands.** Commands participating in the MTS Program are required to establish an MTS Command Nomination Board. This board will:

(1) Ensure that each candidate's application is thoroughly screened to confirm compliance with all eligibility criteria.

(2) Verify that the candidate successfully completes the MTS written assessment (administered online) prior to the convening of an MTS oral board. Personnel previously designated as MTS under the Legacy and Core Competency Qualification Requirements are exempt from both written and oral board assessments.

(3) Following the successful completion of the online written assessment, convene an Oral Board comprising at least three individuals who hold MTS designation. This board will interview candidates on various elements of the MTS PQS as deemed necessary, assessing the nominee's capability to fulfill assigned educational and training management responsibilities. Should the board determine that the nominee meets all qualifications, they will forward their recommendation to the CO for MTS designation.

b. **Recognitions.** Each individual selected for MTS designation will be presented with a NETC certificate and an MTS nametag medallion during an appropriate

command ceremony, and relevant remarks should be included in the individual's performance evaluation or fitness report.

c. **Electronic Service Record Entry (ESR).** An appropriate entry must be made in the individual's ESR:

(1) For military personnel:

(a) Prepare a NAVPERS 1070/613 form and submit it, along with a copy of the designation certificate, to the local Transaction Service Center (TSC) for updating the ESR.

(b) Prepare a Request for Assignment letter, forwarding it along with a copy of the certificate to PERS-3 to receive the AQD 2MT designation.

(c) Prepare a NAVPERS 1221/6 form and submit it with a copy of the certificate to PERS-4013 to receive the NEC 8MTS designation.

(2) To update the Joint Services Transcript (JST) all documents must be certified as true copies by the current command or TSC, and inquiries can be directed to the JST via email at jst@doded.mil.

(3) For DoD civilian personnel. A copy of the designation certificate must be included in their Official Personnel File, with the date of designation recorded.

d. **MTS Medallions:**

(1) MTS medallions may be worn at any education and training activity participating in the MTS Program.

(2) The medallion should be affixed to the member's nametag opposite the command logo. In the absence of a command logo, it will be placed on the wearer's left side. To honor the intent of the Navy's MTS Program, fleet activities are encouraged to have their MTS-designated personnel wear the medallion or other approved designators to signify their qualifications as valuable training assets who possess exceptional instructional and learning management skills. This recognition also positions them as essential resources for coaching and mentoring fellow Sailors.

(3) Personnel who have previously achieved MTS designation are permitted to continue wearing the medallion while assigned to a training activity.

e. **Transfer.** Should an individual with MTS designation transfer to a different training command, they may be required to undergo requalification.

13.5. Master Training Specialist Designation Removal Procedures

The CO retains the authority to revoke an individual's MTS designation if the individual fails to uphold the requisite standards as outlined in this instruction. If an individual's designation is rescinded, appropriate entries must be made in the individual's ESR to reflect this change.

13.6. Responsibilities

a. **NETC**

(1) Develop overarching strategies and issue policies and guidance for the effective execution of the MTS Program.

(2) Maintain NAVEDTRA 43100-7H to support the necessary MTS PQS line items, accessible through the designated Navy portal.

(3) Establish performance metrics and provide comprehensive oversight of the MTS Program.

(4) Collaborate with Command MTS Program Coordinators to grant online access to MTS written assessments for candidates.

(5) Issue serialized MTS certificates and medallions to participating commands.

b. **NETC Domain Education and Training Commands**

(1) Appoint a Command MTS Program Coordinator.

(2) Implement and execute the MTS Program in accordance with this instruction.

(3) Designate an MTS mentor for each candidate, who will be authorized to provide sign-off authority as part of the command's MTS Program. Individuals previously designated as MTS through the legacy process must successfully complete NAVEDTRA 43100-7H prior to receiving mentor or qualifier status. Legacy MTS personnel are exempt from oral or written examination requirements.

(4) Training commands outside the NETC domain that wish to participate in the MTS program. The immediate superior in command (ISIC) must validate that their unit applicants are eligible for the MTS program. The ISIC will then submit to NETC MTS Program Manager for approval the below requirements:

(a) Verification that the training command's primary mission is education and training as stated in the mission, function, and task.

(b) A formal request to participate in the MTS Program on command letterhead, approved by the CO/OIC. Appendix E.

(c) Commands must have billeted Navy instructors who have graduated from NITC and obtained NEC 805A, or equivalent.

(d) A minimum of 3 MTS designated personnel and 10 instructors to sustain the MTS program.

(e) Validated and approved training command MTS instruction materials.

(f) Validated and approved training command instructor qualification, certification, and sustainment guidelines that conform to Chapter 12 of this manual.

(g) An annual memorandum affirming that the command continues to meet MTS program participation requirements, signed by the CO/OIC, and forwarded to the NETC MTS Program Manager.

NOTE: Appendix F contains a checklist to assist commands in the approval process. All correspondence for MTS program requests will be submitted to NETC-MTS@us.navy.mil.

c. **Training Command MTS Program Coordinator**

(1) Act as the command representative for program administration.

(2) Oversee and maintain the qualification process for the command and its sub-units.

(3) Collect and submit metrics and evaluate any data requested in conjunction with recommendations for continuous improvement and validation.

(4) Maintain a tracker documenting the completion of prerequisites and the progress of MTS candidates. Archive MTS documentation for those who have previously achieved MTS designation per SECNAV M-5210.1.

(5) Document podium contact hours for each enrolled MTS candidate, which must be achieved during their current command assignment. If formal training is not feasible, contact hours may be fulfilled through CMT, Navy Military Training, Personal Financial Management, leadership training, or similar avenues.

(6) Maintain a tracking document for MTS certificates to validate their issuance and utilization.

(7) Inform the MTS Program Manager of any changes in MTS coordinator assignments or command contact information.

(8) Maintain an updated list of MTS Learning Assessment System unit test proctor and administrator.

d. **MTS Candidates**

(1) Collaborate effectively with MTS mentors.

(2) Complete all requirements specified in NAVEDTRA 43100-7H, this manual, and any additional command program prerequisites.

(3) Military personnel must successfully pass and maintain their Physical Fitness Assessment (PFA) per OPNAVINST 6110.1K or applicable service guidelines. Those with medical waivers must have successfully completed their last PFA prior to receiving the medical waiver.

(4) Meet performance evaluation standards. Candidates evaluated under BUPERSINST 1610.10G must achieve no score lower than 3.0 in any category over the 12 months preceding their nomination.

e. **MTS Qualifier/Mentors**

MTS Qualifiers/Mentors are designated MTS personnel to sign off individual watch stations, which every command must have a current listing. Qualifiers/Mentors are MTS designated personnel responsible for ensuring the standards of this program are maintained. Qualifiers/Mentors should be made known to all members of the unit or department. The means of maintaining this listing is at the discretion of individual commands.

Qualifiers are MTS personnel which can educate and sign individual line items of an MTS candidate based on displayed knowledge or ability. There isn't any time restriction to sign line items based on MTS designation date.

Each MTS candidate must be assigned as a Mentor. The Mentor will assist the MTS candidate through the entire MTS process. The Mentor must be familiar with the entire process to MTS designation and be in contact with Command's MTS coordinator. MTS Mentor must guide the MTS candidate through the process. Address and answer questions and concerns raised by the candidate. Must be a ready reference and provide data as requested by the candidate. Coordinate with the MTS coordinator for the candidate to on-line test once all line items have been completed. Coordinate with MTS coordinator MTS candidate oral board set up upon successful completion of on-line test. Assist in the preparation of the MTS candidate for the oral board.

APPENDIX A
INSTRUCTOR CERTIFICTION PLAN (EXAMPLE)

(COURSE LONG TITLE) (C-000-0000A CH-1) COURSE CERTIFICATION PLAN

NAME _____

RATE/RANK/MILITARY OCCUPATIONAL SPECIALTY _____

This page is to be used as a record of satisfactory completion of designated course certification requirements. Only certified instructors may signify completion of applicable sections either by written or oral examination, or by observation of performance. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page must be kept in the instructor training record.

The instructor has completed all certification requirements for this course. Recommend designation as a certified **(COURSE NAME) COURSE (A-000-0000A) INSTRUCTOR.**

RECOMMENDED_____DATE_____
Course Supervisor (CS)

RECOMMENDED_____DATE_____
Leading Chief Petty Officer

RECOMMENDED_____DATE_____
Field Training Specialist/
Field Learning Standards Officer

RECOMMENDED_____DATE_____
Training Officer

CERTIFIED_____DATE_____
Commanding Officer/
Department Head (by direction)

TRAINING RECORD _____DATE_____

Estimated completion time: XXX days

1.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT MUST BE COMPLETED PRIOR TO FINAL CERTIFICATION.

1.1.1 Completed Navy Instructor Training Course School

_____
(Signature and Date)

1.1.2 Completed Command Indoctrination and Instructor Indoctrination Checklist

_____
(Signature and Date)

1.2 TASKS

1.2.1 Demonstrate to the CS, working knowledge of Corporate enterprise Training Activity Resource System, My Navy Portal, and the Learning Management System.

_____
(Signature and Date)

1.2.2 Briefed by CS on certification requirements/expectations and document session using Instructor Development Plan.

_____
(Signature and Date)

1.2.3 Personalize Instructor Guide (IG), Sit through as an instructor under instruction, and practice teaching each lesson of course to include associated labs. These tasks must be completed for every section/lesson using the associated table in this certification plan.

_____
(Signature and Date)

1.2.4 Obtain satisfactory evaluations on three presentations.

NOTE: If the course contains labs, ensure one of the three evaluations is conducted in a lab setting.

NOTE: If this is the instructor's initial/first evaluation, the satisfactory evaluations must also be credited towards instructor certification requirements. They should be marked as T1, T2, and T3 accordingly.

_____
(Signature and Date)

1.2.5

(PERSONALIZE IG) - CS signature affirms the IG was verified for adequate personalization (examples, analogies, "sea stories," and questions throughout lesson). Highlighting is allowed and encouraged but does not count as personalization by itself.

(SIT THROUGH) - Certified instructor signature affirms instructor under instruction sat through entire lesson observing the certified instructor and was provided with familiarization on test administration and security, class/lab setup and breakdown, equipment storage/operation, safety, student management/records, and all other miscellaneous course related indoctrination.

(PRACTICE TEACH) - Certified instructor signature affirms practice teaches were free of safety violations and technically accurate.

SECTION/LESSON TOPIC CERTIFICATION TASKS				
COURSE MASTER SCHEDULE LESSON #	**PERSONALIZE IG** Course Supervisor (Sign and Date)	**SIT THROUGH** Certified Instructor (Sign and Date)	**PRACTICE TEACH** Certified Instructor (Sign and Date)	**SATISFACTORY EVALUATION** (3 minimum) (Date)
1.1				
1.2				
1.3				
1.4				
2.1				
2.2				
2.3				
3.1				

3.2				
3.3				
3.4				

APPENDIX B
INSTRUCTOR DEVELOPMENT PLAN (EXAMPLE)

INSTRUCTOR DATA			
LAST NAME, FIRST NAME	**RATING/MILITARY OCCUPATIONAL SPECIALTY**	**REPORT DATE**	**PRD**

COURSE SUPERVISOR INSTRUCTOR DEVELOPMENT SESSIONS LOG		
LAST NAME, FIRST NAME	**REVIEW DATE**	**NEXT REVIEW DATE**
LAST NAME, FIRST NAME	**REVIEW DATE**	**NEXT REVIEW DATE**
LAST NAME, FIRST NAME	**REVIEW DATE**	**NEXT REVIEW DATE**
LAST NAME, FIRST NAME	**REVIEW DATE**	**NEXT REVIEW DATE**
LAST NAME, FIRST NAME	**REVIEW DATE**	**NEXT REVIEW DATE**
LAST NAME, FIRST NAME	**REVIEW DATE**	**NEXT REVIEW DATE**

UNDERSTANDING THE PURPOSE OF YOUR INSTRUCTOR DEVELOPMENT PLAN (IDP)

THIS DOCUMENT WILL HELP YOU UNDERSTAND YOUR LEADERSHIP'S EXPECTATIONS IN REGARD TO:

- Certification expectations (your contribution for [Name of Command] readiness/resiliency).
- Time expectations (your guide for prioritizing and budgeting your time and efforts).
- Training expectations and opportunities (your personal growth/development).
- Mentorship expectations and opportunities (sharing your knowledge and skills/developing others).
- Remediation expectations (if applicable, developing areas of weakness).

THIS DOCUMENT WILL ALSO PROVIDE A PLACE TO TRACK YOUR ACCOMPLISHMENTS:

- Did you achieve what was expected, and within expected timeframe?
- How many repetitions/hours have you committed to the duties/tasks expected of you?

PROMPTS/SUGGESTIONS FOR INSTRUCTOR DEVELOPMENT

Additional Module or Course Certification(s)	Observing/Training New Instructors
Additional Designations	Additional Collaterals/Responsibilities
Command In Service Training	Other Training Opportunities
Instructing x Number Convenes/Hours in x Timeframe	Temporary Additional Duty Assignments
Curriculum Development Project(s)	Special Command Projects
Volunteer Opportunities	Master Training Specialist and Mentor
In Service Training Instructor Certification(s)	Periodic/Scheduled IDP Review with Leadership
Instructor of the Quarter/Instructor of the Year Board	Remedial Development (if applicable)

EXPECTATIONS & OPPORTUNITIES	ASSIGNED BY	TARGET DATE / ACTUAL DATE	INSTRCTR INITIAL
☐ INSTRUCTOR CERTIFICATION (WITHIN 90 DAYS OF REPORTING OR NAVY INSTRUCTOR TRAINING COURSE)			
☐ INSTRUCTOR EVALUATOR IN SERVICE TRAINING			
☐ INSTRUCTOR EVALUATOR DESIGNATION			
☐			
☐			
☐			
☐			
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☐			
☐			
☐			
☐			
☐			

NOTES/REMARKS/EXPLANATIONS: (Date all entries)

NOTE: Print additional IDPs if more entries are needed. Ensure all entries are retained in training records.
NOTE: IDP may not be applicable to contract instructors. Contract instructors are governed contractually per Statement of Work.
NOTE: IDP Prompts and suggestions are not all inclusive, nor a requirement.

APPENDIX C
IN-SERVICE TRAINING MATRIX

	Training Requirements/Periodicities										
Training Roles	CI	CS	TO	CD	CCMM						
Location						Training Activity			Learning Center		
Subgroups						Training Specialty	Dept Director	Commanding Officer/ Officer In Charge	Training Specialty	Learning Standards Officer	Deputy Director of Training/ Director of Training
Training Area/Topic											
Instructor Sustainment Training											
1.1 Effective Communication	B	B			B	R					
1.2 Effective Questioning	B	B			B	R					
1.3 Instructional Methods	B	B							R	R	R
1.4 Motivation	B	B			B	R					
2.1 Principles of Learning	B	B	D						R	R	R
2.2 Classroom Management	B	B	D						R	R	R
2.3 Instructional Media Material	B	B	D								
3.1 Classroom Materials	B	B									
3.2 Role of the Navy Instructor	B	B	D						R	R	R
Advanced Instructor Training											
1.1 Academic Review Boards		I				I	R	R	R	R	R
1.2 Learner Management and Counseling	I					I	R	R			
1.3 Instructor Certification	I					I	R	R			
1.4 Instructor Evaluation	I					I	R	R			
1.5 Technology in the Classroom	I					I					
Testing											
1.1 Testing Program	I	D	P		D	I	R	R			
1.2 Grading System		D	P		D						

1.3 Knowledge Tests and Administrator Guides		D	P		D						
1.4 Perform-ance Tests and Administrator Guides		D	P		D						
1.5 Tests and Test Item Analysis		D	P		D						
1.6 Testing Plan		D	P		D						
1.7 Testing Program Administration		D	P		D	I			R	R	R
Curriculum Development											
1.1 Writing Learning Objectives				A	B				R	R	
1.2 Writing Better Test Questions				A	B				R	R	
1.3 Adult Learning Theories				A	B				R	R	
Practical Applications of Learning Science (PALS)											
1.1 PALS	B	B	D						R	R	R
Corporate enterprise Training Activity Resource System (CeTARS)											
1.1 CeTARS Overview		I	I	I	I	I	I	I	I	I	I
1.2 CeTARS Monitor	I	I			I	I	I	I	I	I	I
2.1 Catalog of Navy Training Courses Basics		I			I	I	I	I	I	I	I
2.2 Quota Management	I	I			I	I	I	I	I	I	I

Key Codes		Periodicity Codes
Classroom Instructor (CI) – Formal classroom instructor.		**Initial** (I) – One time requirement completed within 3 months of reporting aboard or job assignment.
Course Supervisor (CS) – Locally designated manager/lead instructor responsible for course delivery and adherence to command training policy at the course level.		**Annual** (A) – Must be accomplished annually.
Testing Officer (TO) – Responsible for adherence to testing program requirements.		**Bi-annual** (B) – Must be accomplished every 12 to 24 months.
Curriculum Developer (CD) – Civilian or military personnel involved in curriculum development efforts.		**Directed** (D) – As directed/required by higher authority.
Course Curriculum Model Manager (CCMM) – Personnel designated by the DoT responsible for developing, revising, and maintaining a course of instruction.		**Prior** (P) – Prior to assuming duties.
Training Manager – Personnel responsible for command-wide or departmental training programs (e.g. DoT, Dept. Director, Safety Officers, Curriculum Managers, Developers, and Learning Standards Officers.		Recommended (R) – Highly recommended.

APPENDIX D
PRACTICAL APPLICATIONS OF LEARNING SCIENCE HANDBOOK

PALS Handbook available for download:

https://flankspeed.sharepoint-mil.us/sites/MYNAVYHR_NETC/N7/1426/Forms/AllItems.aspx

APPENDIX E
MASTER TRAINING SPECIALIST PROGRAM REQUEST TEMPLATE

COMMAND LETTERHEAD

SSIC XXXX
Code/Ser#XXX
Date: Month DD, YYYY

From: Activity head, name of activity
To: Commander, Naval Education and Training Command, Director, Training and Development (N7)

Subj: MASTER TRAINING SPECIALIST PROGRAM REQUEST

Ref: (a) NAVEDTRA M-142.6

Encl: (1) Activity, Mission, Function, and Task
(2) Activity, Master Training Specialist Program Instruction
(3) Activity, Instructor Certification and Evaluation Program Instruction

1. Activity (unit identification code XXXXX) is a Department of the Navy, Activity Mission (Short Version).

2. XX instructors assigned to Activity are eligible for participation in this program and have met the requirements outlined in reference (a). Activity currently has XX instructors assigned and X are Master Training Specialist (MTS) qualified.

3. Activity expects to qualify number represented by following X (X) [for example Ten (10)] MTS graduates annually.

4. Enclosures (2) and (3) are our qualification, certification, and sustainment instruction directives.

5. Activity understands the requirement to annually provide a memorandum validating that the Activity still meets MTS program participation requirements per reference (a).

6. Activity requests approval for our command MTS program.

7. I verify this organization's PRIMARY Mission is Education and Training.

8. Questions or concerns may be directed to RATE First Name Middle Initial. Last Name at (XXX) XXX-XXX or point of contact email.

Signature
Activity Commanding Officer Name

APPENDIX F
NON-NAVAL EDUCATION AND TRAINING COMMAND MASTER TRAINING SPECIALIST PROGRAM REVIEW CHECKLIST

Non-Naval Education and Training Command Master Training Specialist Program Review Checklist			
PART I: Master Training Specialist (MTS) Program Request Documents	**YES**	**NO**	**N/A**
1. Is the command's primary mission training and education?			
2. Is the MTS program participation request on command letterhead approved by the commanding officer/officer in charge?			
3. Does the command have at least three MTS designated personnel and 10 instructors to sustain the MTS program?			
4. Has the command MTS instruction been validated and approved?			
5. Has the command instructor qualification, certification, and sustainment instruction been validated and approved?			
6. Is there an annual memorandum validating that the participating command still meets MTS program participation requirements per this instruction?			
PART II: Command MTS Instruction Requirements			
1. Is the command MTS coordinator designated in writing?			
2. Are mentors being assigned to MTS candidates?			
3. Does the command MTS coordinator maintain a list of all MTS qualified personnel?			
4. Has the command instructor certification/qualification instruction been reviewed for accuracy within the last year?			
5. Has the command MTS instruction been reviewed for accuracy within the last year?			
6. Does the command MTS instruction indicate that instructor nominees must have not less than six months onboard and not less than six months to projected rotation date to qualify for MTS designation?			
7. Does the command MTS instruction indicate that instructor nominees must complete 135 podium contact hours prior to MTS designation?			
8. Is the current Managers Internal Control Program documentation on file (internal control system test, operational risk management, flow chart, self-assessment, etc.)?			
9. Is MTS training material up to date and being utilized?			
PART III: MTS/Training Records			
1. Are instructor evaluations documented with MTS recommended in command instructor training record (ITR)?			
2. Is instructor qualification (9502/805A) or equivalent documented in command ITR?			
3. Are all special waivers (if any) documented in command ITR?			
4. Are special request chits to enroll in the MTS program documented in command ITR?			
5. Are podium hours documented in command ITR?			
6. Are all personnel qualification standard line items signed and documented in command ITR?			
7. Are members test scores documented in command ITR?			
8. Are 301/302 qualification sheets documented in command ITR?			
9. Are prior MTS qualifications document for requalification in command MTS records?			
10. Are copies of MTS qualification certificates and designation letters documented in command MTS records?			

APPENDIX G
BIBLIOGRAPHY

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APPENDIX H
REFERENCE

REFERENCE	TITLE
BUPERSINST 1610.10G	Navy Performance Evaluation System
MILPERSMAN 1301-226	Officer Special Assignments - Training Instructor Duty
MILPERSMAN 1306-953	Instructor Duty
NAVEDTRA 140C	Training Support Management Manual
NAVEDTRA M-142.1	Navy Training Process Phase I Triggers
NAVEDTRA M-142.2	Navy Training Process Phase II Requirements Development
NAVEDTRA M-142.3	Navy Training Process Phase III Course Development, Modernization, Acquisition, and Pilot
NAVEDTRA M-142.4 Volume I	Navy Training Process Phase IV Course Fielding - Volume I Navy School Management
NAVEDTRA M-142.4 Volume II	Navy Training Process Phase IV Course Fielding - Volume II Testing Manual
NAVEDTRA M-142.5	Navy Training Process Phase V Assessment and Sustainment
NAVEDTRA 14300	Navy Instructor Theory Manual
NAVEDTRA 43100-7H	Personnel Qualification Standard for Master Training Special
NETCINST 1500.13F	Naval Education and Training Command High and Moderate-Risk Training Safety Program
NETCINST 1700.2	Warrior Toughness Curriculum and Culture Implementation
OPNAVINST 1500.75D	Policy and Governance for Conducting High-Risk Training
OPNAVINST 1510.10E	Corporate enterprise Training Activity Resource System
OPNAVINST 5100.19F	Navy Safety and Occupational Health Manual for Forces Afloat
OPNAVINST 5100.23H	Navy Safety and Occupational Health Manual, Volume I: Navy Safety Management System
OPNAVINST 5370.2E	Navy Fraternization Policy
OPNAVINST 6110.1K	Physical Readiness Program
SECNAVINST 1610.3	Department of the Navy Policy on Harassment Prevention and Response
SECNAVINST 5300.26E	Department of the Navy Policy on Sexual Harassment