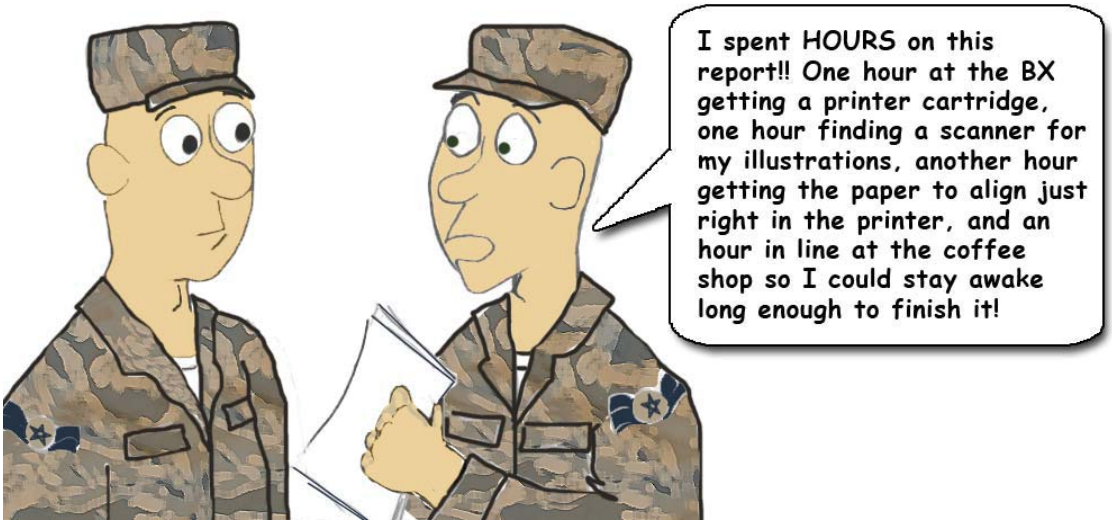
Time Management's Role in Successful Learning

In this topic, you will see how time management impacts the learning process. As a student, your focus should be on understanding the demands of time during this course and your ability to apply proper time management techniques in an academic environment. Most students find the course emotionally and mentally rigorous, quickly discovering that time is their most precious resource. The pace is very demanding due to the myriad of exercises and required reading. Students can experience moderate to severe stress throughout the course and they say that it takes good time management to cope with the stress.

Using Your Time Wisely

As the saying goes, "those who fail to plan, plan to fail," so in order to be successful at learning you need to prepare to manage your time. Keys to successfully using your time wisely include:

Scheduling – Probably the first and foremost prerequisite to successful learning is your ability to manage your time properly. One of the great things about distance learning is the fact that you can study when it is convenient for you.



However, this freedom also means that you'll have to be adept at managing your time if you want to successfully complete your course work. One way you can use your time wisely and promote successful learning is by setting and scheduling goals for yourself.

To do this, you'll need to familiarize yourself with everything that is expected of you to complete the course and come up with a realistic amount of time necessary to complete each task. Then you can create a schedule of goals, breaking them down into weekly or daily tasks as necessary.

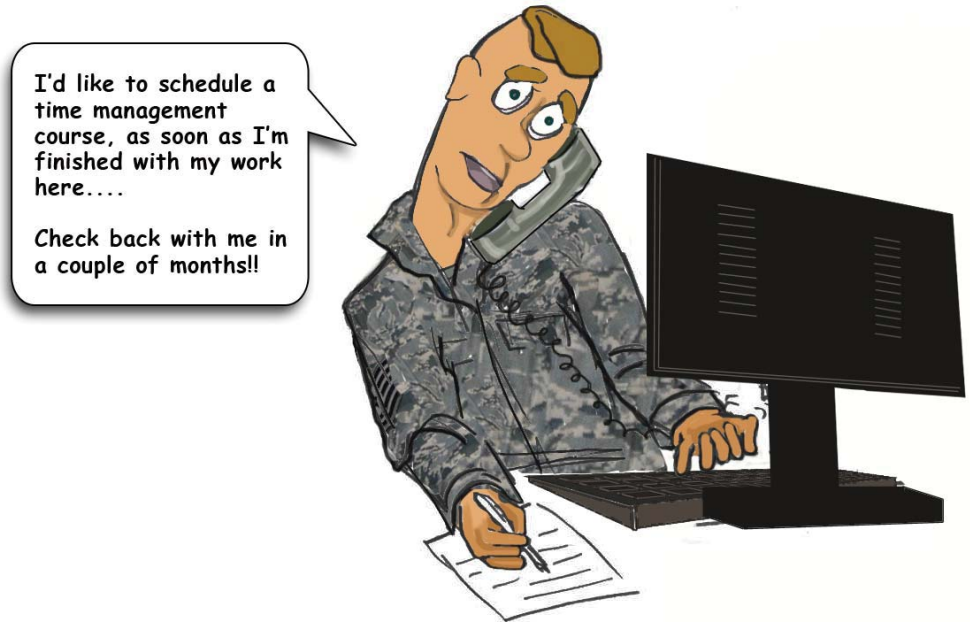
Self Discipline – To complete a course successfully, you'll need to draw upon your power of self discipline. The independence you have with distance learning means that you'll not have face-to-face meetings with an instructor or fellow classmates and therefore no constant reminders of assignments or deadlines. This means that you'll need to have the self discipline to complete required course readings, exercises, and examinations.

> *"In reading the lives of great men, I found that the first victory they won was over themselves...self-discipline with all of them came first."*
>
> *- Harry S Truman*

Dealing with Distractions – In the same realm as self-discipline is the ability to deal with distractions. You'll probably be doing most of the work at your home computer, which is a wonderful convenience. However, your home can also be a source of distraction. Whether it be your children, spouse, household projects and chores, or the television, make sure that when you are working on the task at hand you are focused on that and nothing else.

> *"By prevailing over all obstacles and distractions, one may unfailingly arrive at his chosen goal or destination."*
>
> *Christopher Columbus*

Overcoming Procrastination



Procrastination results from any number of attitudes or situations. It may be a symptom of fear and confusion, or it could be caused by lack of proper analysis, planning, prioritizing, and control of the situation. Some procrastinate when they are fatigued, depressed, or uncertain of their capabilities.

If you tend to procrastinate, you must modify your behavior, or you will never be successful! Successful learning won't happen if you keep putting things off. If you delay things for fear of failure, you have to consider that your achievements will be delayed as well.

> *"The secret of getting ahead is getting started. The secret of getting started is breaking your complex overwhelming tasks into small manageable tasks, and then starting on the first one."*
>
> *- Mark Twain*

You also have to deal with any anxiety that may be causing your procrastination. Try to determine the source of your anxiety. If it stems from a lack of preparation on your part, your anxiety is considered a rational response. However, if you believe that you are prepared for the lesson and exercises, but are still panicking, this may be an irrational response.

Regardless of source, it can be very helpful to know the many ways to address procrastination. Some are easy to do, while others require intense concentration and commitment. If you suffer from this problem, you've got to settle it now.

Benefits of Time Management

Some of the advantages of time management include reduced anxiety, gained time, reduced avoidance, improved opportunities for reviews and eliminated cramming. Managing time also helps you to stay motivated while avoiding procrastination. The secret to successful time management is acknowledging, setting up, and prioritizing goals that work – by doing so, you'll find that you can get a measure of control over your life.

Even if you are an extremely organized person, it is inevitable for some unscheduled events to pop up. Once you start practicing proper time management skills, you'll know how to better prioritize and plan your day so that even these unexpected issues get dealt with.

When you don't know how to manage your time properly, your tasks seldom get done. When you utilize proper time management skills, you learn how to write down all your tasks at hand, attach time lines to each, and stay within these time lines. This enables you to always be finishing at least some projects, instead of drowning in an ever growing sea of unfinished ones.

There are certain tasks that need to be completed in order to achieve goals. If you want to be able to get to any of those tasks done, you must effectively manage your time. Reaching your goals and time management are closely connected, so if you master time management then you'll be able to master goal attainment. Time management benefits are powerful and extend beyond successful learning, reaching far into various parts of your life. Now that you know the potential to affect your life, you can start working on developing some effective time management techniques, and building the life you've always wanted.

Progress Check

1. How do you plan to manage your time while taking the NCOADL course?

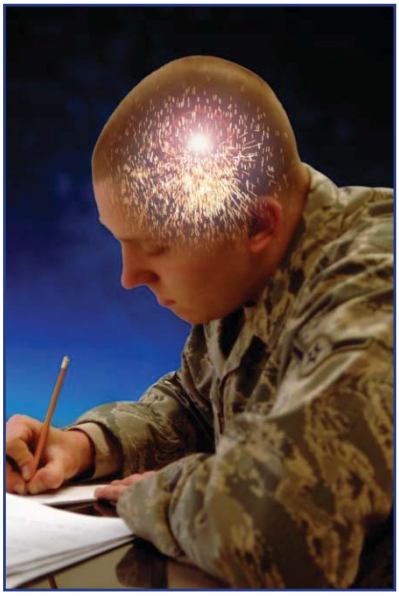
2. What are some things you can do to avoid "burnout?"

3. How can you overcome the tendency to procrastinate and minimize the impact it has on your success as a student?

4. What are some of the benefits of *good* time management?

Keys to Successful Learning

Learning Defined



Though the academic world has many definitions of learning, EPME defines ***learning*** as *the process that changes the way people think, feel, or behave*. You know learning has occurred when students miss questions on pretests but correctly answer similar questions on final exams.

So, you know when learning occurs, but how does it happen? The answer depends on what type of learner you are. You receive information through sensory channels or pathways called learning modalities. The modalities, or senses, described below include visual, auditory, and tactile/kinesthetic.

The Learning Style Profile

Auditory Learners

Auditory learners primarily use hearing to process information. When given a choice, strong auditory learners will sit where they can easily hear the speaker and where outside sounds will not interfere.

Some auditory learners will sit to one side, on the side of their strongest ear. Many times, these are the people who can find it easier to understand the words from songs on the radio and announcements on public address systems.

Characteristics

- Prefers to hear information
- Has difficulty following written directions
- Has difficulty with reading and writing
- May ***not*** look speakers in the eye, instead may turn eyes away in order to focus more on listening

Learning Tips

- Use audio cassettes or CDs for reading and lectures (when available)

- Participate in discussions, ask questions, and repeat given information
- Summarize or paraphrase written material and record the information
- Talk to yourself—review the material
- Discuss the material with someone else

Visual Learners

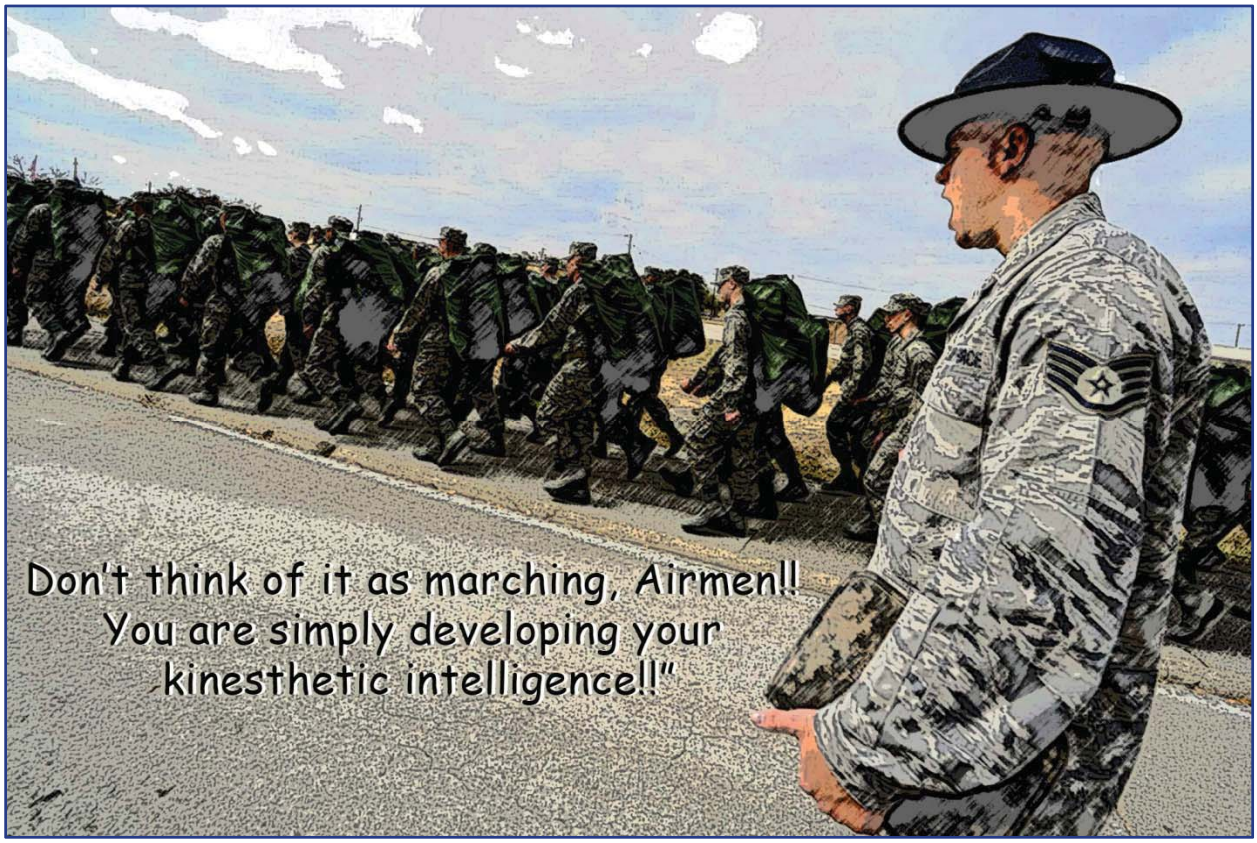
Visual learners need to see the big picture. They may choose a seat where they can see the whole stage or the whole screen. They may like the back seat so everything is out in front, and they can see it all. These are the people who survey the scene, who like to sightsee, and who see the forest despite the trees.

Characteristics

- Needs to see it to learn it—must have mental picture
- Has strong sense of color
- Has artistic ability

- Has difficulty with spoken directions
- Overreacts to sounds
- Has trouble following lectures
- May misinterpret words

Learning Tips



- Use visuals (graphics, films, slides, illustrations, doodles, charts, notes, and flashcards) to reinforce learning
- Use multicolored highlighters to organize notes
- Write directions down
- Visualize words, phrases, sentences to be memorized
- Write everything down; review often

Tactile Learners

Tactile/kinesthetic learners have the need to touch and feel things. That is, they want to feel or experience the lesson themselves. Given a choice, strong kinesthetic learners will be right in the middle of the action. These are the people who tear things apart to see how they work and then put them back together without the directions. Tactile learners are the ones who immediately adjust the seat, mirror, radio, and temperature in the car.

Characteristics

- Prefers hands-on learning/training
- Can put a bicycle together without the directions
- Has difficulty sitting still
- Learns better when involved
- May be coordinated and have athletic ability

Learning tips

- Make a model, do lab work, role play, "be the ball"
- Take frequent breaks
- Copy letters and words to learn how to spell and remember facts
- Use a computer
- Write facts and figures over and over
- Read and walk, talk and walk, repeat

The Adult learning style profile is an instrument used to indicate the type of learner you are: visual, auditory, tactile/kinesthetic, or any combination of the three. No one modality is better or worse than the other, but it is important that you discover what works best for you and then do it.

So, let's see what type of learner you are.

ADULT LEARNING STYLE PROFILE INSTRUMENT

(Adapted from Learning Style Form, developed by Dr. Ray Barsch)

Directions: Read each statement and then circle the number in the appropriate box to indicate your feelings. Work quickly—do not sit and ponder. THERE IS NO RIGHT OR WRONG ANSWER. When finished, follow the instructions for scoring. Answers to each statement helps determine your learning style (visual, auditory, or tactile/kinesthetic). There is no one best learning style; however, each style does have its advantages and disadvantages

COMMENTS	Often	Some-times	Seldom
1. I remember things better when people tell them to me rather than when I read them.	5	3	1
2. I follow written directions better than oral directions.	5	3	1
3. I like to write things down or take notes for visual review.	5	3	1
4. I bear down extremely hard with pen or pencil when writing.	5	3	1
5. I require oral explanations of diagrams, graphs, or visual directions.	5	3	1
6. I enjoy working with tools (cooking, woodworking, mechanical).	5	3	1
7. I am skillful and enjoy developing and making graphs and charts.	5	3	1
8. I like to learn something new by talking rather than reading about it.	5	3	1
9. I remember best by writing things down several times.	5	3	1
10. I can understand and follow directions using maps.	5	3	1
11. I do better at academic subjects by listening to lectures and tapes.	5	3	1
12. I handle objects (coins, keys, pencils) while studying, reading, and conversing.	5	3	1
13. I learn to spell better by repeating the letters aloud, not by writing them.	5	3	1
14. I understand a news article better by reading it than by listening to the radio.	5	3	1
15. I chew gum, smoke, eat, or drink while studying/working.	5	3	1
16. I remember something best by picturing it in my head.	5	3	1
17. I like to make, build, or create things as I learn.	5	3	1
18. I would rather listen to a good lecture or speech than read about the subject.	5	3	1
19. I am good at working and solving jigsaw puzzles and mazes.	5	3	1
20. I prefer listening to news on the radio or TV rather than reading about it.	5	3	1
21. I like to learn most by building, making, or doing things.	5	3	1
22. I enjoy researching an interesting subject by reading relevant material.	5	3	1
23. I feel comfortable touching others, hugging, handshaking, etc.	5	3	1
24. I follow oral directions better than written directions.	5	3	1
25. I enjoy learning by going places and seeing things.	5	3	1
26. I like to draw, color, sketch, and paint things.	5	3	1
27. I doodle during meetings, lectures, or while listening on the phone.	5	3	1
28. I enjoy listening to music.	5	3	1
29. I like to shape or make things with my hands (clay, ceramics, dough, etc.).	5	3	1
30. I read aloud (or whisper) to myself when trying to understand new written material.	5	3	1

SCORING PROCEDURES
Adult Learning Style Profile

1. Place the point value on the line next to its corresponding item number:

OFTEN = 5 Points		**SOMETIMES = 3 Points**		**SELDOM = 1 Point**	
AUDITORY		**VISUAL**		**TACTILE**	
Question #	Points	Question #	Points	Question #	Points
1		2		4	
5		3		6	
8		7		12	
11		9		15	
13		10		17	
18		14		21	
20		16		23	
24		19		25	
28		22		27	
30		26		29	
Profile Score Total		**Profile Score Total**		**Profile Score Total**	

2. Total each column to arrive at your profile score total under each heading.

3. Write your profile scores (highest, middle, and lowest) on the appropriate lines below.

Highest Score:_____	Middle Score: _____	Lowest Score:_____

If your score reads something like: Auditory = 30 Visual = 27 Tactile = 20, it indicates you are an auditory learner first, a visual learner second, and a tactile learner last.
Put another way, you learn best by hearing and/or verbalizing what it is you are trying to learn. When you cannot hear and verbalize what you hear, your BEST mode of learning is being denied you, but you can still learn through the VISUAL and TACTILE modes.

If your score reads something like this: Visual = 33 Auditory = 24 Tactile = 19, it indicates you are a visual learner first, an auditory learner second, and a tactile learner last. Put another way, you learn best by seeing what's going on. When you cannot see what's going on, your BEST mode of learning is being denied you, but you can still learn through the AUDITORY and TACTILE modes.

If your score reads something like this: Tactile = 34 Visual = 27 Auditory = 27, it indicates you are a tactile learner first, a visual learner second, and an auditory learner last. Put another way, you learn best by doing. You take notes during class, but rarely have to look at them afterwards. It helps you to recall information when you are moving around or have something in your hand.

Scores	Indication	Learn best by:
Auditory = 30 Visual = 27 Tactile = 20	auditory learner first, a visual learner second, and a tactile learner last	hearing and/or verbalizing
Visual = 33 Auditory = 24 Tactile = 19	visual learner first, an auditory learner second, and a tactile learner last	seeing what's going on
Tactile = 34 Visual = 27 Auditory = 27	tactile learner first, a visual learner second, and an auditory learner last	by doing

"I hear and I forget. I see and I remember. I do and I understand."
- Confucius

Steps of the Learning Process

Chapters of the NCOADLC comprise reading assignments intended to prepare you to understand the questions and formulate answers. The following study tips will prepare you as you proceed through the chapters.

Read for Comprehension

In a broad sense, reading for comprehension is interpretation, understanding, and recollection of written concepts. In other words, how you read affects how you learn. There are techniques that will help improve your reading comprehension, and they include:

- Be physically and mentally prepared to read.
- Assume responsibility for comprehending.
- Read to understand, rather than to agree or disagree.
- Do not permit emotional barriers between yourself and the information.
- Read for main ideas; do not become too involved in specific details or individual supporting points.
- Concentrate on reading to learn. The alert reader has ample time to mentally repeat, summarize, and paraphrase the information.

Take Notes

Given the amount of material covered, and the fact that no one can memorize several hundred complex leadership, management, and communication concepts, it is paramount that you develop a solid method for taking notes as you read through the chapters. A good, solid method for taking notes follows:

- Be prepared to take notes.
- Look at the overview/outline and include main ideas and enough supporting details to make the main idea clear.
- Watch for transitions to signal new main points—identify topic sentences
- Identify points in introduction and conclusion
- Bulletize lists and/or steps
- Highlight keywords
- Make an outline of significant points

Study

Keep in mind that effective reading and note taking are keys, but to learn effectively, you will have to study your reading assignments and notes. Your reading assignments are designed to give you knowledge-level background material on the course subjects. The reading assignment is a building block. The progress checks, self-reflection opportunities, scenarios, and case study analysis will expand above and beyond the reading assignment. **Completion of all reading assignments is a must! Failure to complete them will limit your knowledge base and could prove detrimental to satisfactory performance on evaluations.**

Listed below are some proven study tips:

- Be systematic in your studying.
  - Check your notes for accuracy. (You cannot study bad notes and expect to do well.)
  - Build a realistic study schedule and stick to it.
- Use your time wisely.
  - Take study breaks. (Two 30- to 45-minute study sessions are more productive than a marathon study session.)
  - Instead of memorizing, seek to understand.
  - Briefly review material from previous chapter to reinforce what you already know.
- Concentrate on studying, and eliminate distractions.
- Use the case study while studying. Look for how the lesson principles you have just learned are used in the case study. Read the case study again after each chapter for the same study exercise. This will reinforce the principles learned; familiarize you with the case study's content.

The bottom line on studying: Have a system, and stick to it; make studying a habit.

Practice

Practice, practice, and more practice will be your recipe for success. Practice reinforces knowledge, helps measure learning outcomes, and builds self-confidence, so be sure to take advantage of and accomplish all exercises presented throughout this course of instruction.

Practice will also prove to be important as you work on improving your managerial interpersonal skills. Through application, you will learn to identify counseling skills. You will learn to adapt your mentoring skills as you practice applying mentoring techniques in different situations.

Practice will also benefit you in improving your application of profession of arms skills. Uniform wear will be inspected to ensure proper dress and appearance as well as your skills in drill and ceremony.

Testing

The *true* test of learning, note taking, and studying comes *after* you graduate; however, one indicator of how well you have learned is evident on test day. Let's look at some items to consider about test taking.

- Know what is being tested and how it is tested. Later in this reading, you will learn about learning objectives and samples of behavior. These two concepts are indicators of what you should study.
- Exercise care when taking the test.
    - Be prepared.
    - Think positive.
    - Concentrate.
    - Use your time wisely.
    - Read carefully.
    - Be cautious about changing answers.
- Learn from the test. Although your primary concern is probably your test score, the true value of test taking is feedback. Did you learn the things you need to be a better Air Force supervisor? Use the test for its educational value; compare how and what you studied to what was actually tested.
    - Did you fail to get something in your notes?
    - Did you clarify confusing areas?
    - Did you "read into the question?"

The real key to learning from your test is to reinforce what you did well, and to understand your mistakes so they will not be repeated.

Lifelong Learning

Do not make your primary concern a test score, but rather focus on becoming a more effective leader by doing your best to comprehend lesson concepts and principles. With this in mind, analyze your test results and use the information to improve. Your true goal should be to apply the information after graduation. Graduation should not mark the end of your learning, but rather the continuation of your experience as a leader, manager, and NCO.

When a course lives up to its responsibilities in delivering the curriculum, and each student does his or her best to use these keys to successful learning, the logical outcome is that everyone achieves course objectives by reaching the appropriate levels of learning.

Progress Check

5. Place the letter A, V, or T to identify the Auditory, Visual, or Tactile Learner Characteristics.

Difficulty following written directions	
May *not* look speakers in the eye	
Has difficulty with spoken directions	
Needs to see it to learn it	
Has difficulty sitting still	
Learns better when involved	
Participate in discussions, ask questions, and repeat given information	
Discuss the material with someone else	
Use multicolored highlighters to organize notes	
Write everything down; review often	
Role play, "be the ball"	
Take frequent breaks	

6. Match the description from the right column with the corresponding key to successful learning in the left column. All answers used only once.

___ Definition of Learning	a. instead of memorizing, seek to understand
___ Take Notes	b. include main ideas and supporting details
___ Study	c. changes the way a person thinks, feels, or behaves
___ Practice	d. one indicator of how well you have learned
___ Lifelong Learning	e. apply information after graduation and continue learning
___ Testing	f. reinforces knowledge, builds self-confidence

Levels of Learning

All Professional Military Education (PME) courses include cognitive and affective objectives and both types target three levels of learning.

The ***affective domain*** includes the manner in which you deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. There are five major categories, but for the purpose of this course, only three will be covered.

The affective domain is the feeling or internalization component of learning. This means learners assign personal value to the content of the chapter. Knowing the various levels of affective learning and the affective learning objectives in the NCOADL curriculum will help you understand what the Air Force expects of NCOs who complete the course.

*The **affective domain** involves the manner in which one deals with things emotionally. It is the impact of one's attitude, or ability to value, appreciate, and motivate.*

Affective Domain Levels of Learning

Receiving

Receiving is the affective domain's first level of learning. At this level, learners pay attention and actively receive. They display awareness and willingness to receive. Learners may employ selective attending by making an effort to filter out other messages or distractions that threaten to interrupt their reception of chapter material. The receiving of stimuli in these chapters are not simply through the reading of the words. There are various forms of visual stimuli that aid in solidifying the concepts and principles that are presented.

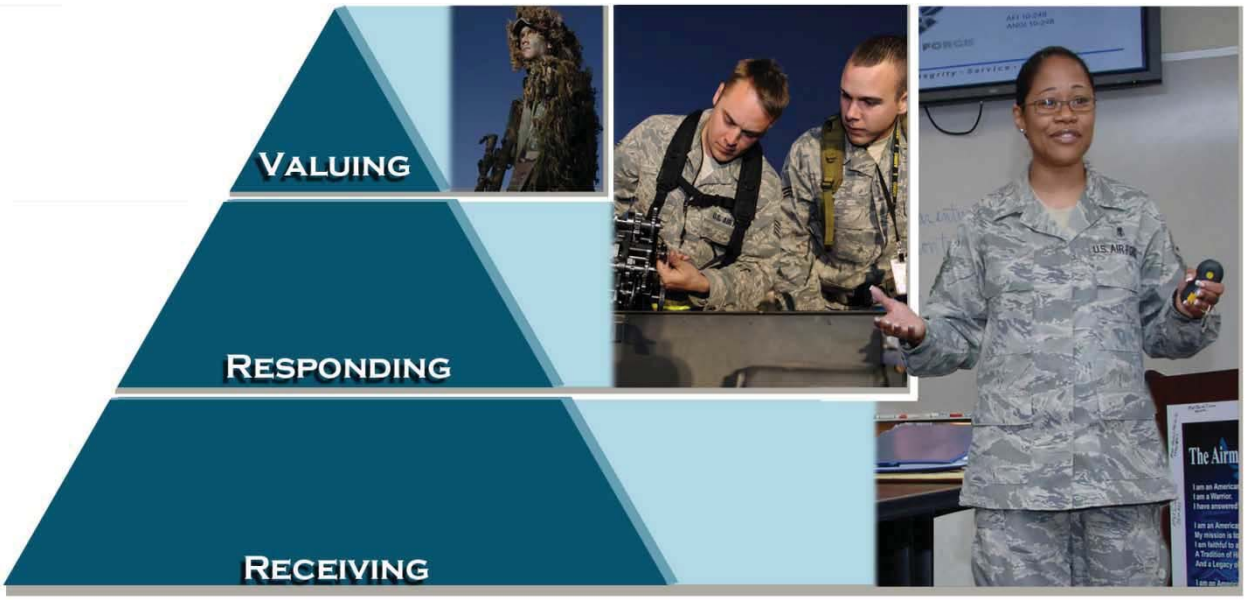
Responding

Responding is the affective domain's second level of learning. For deeper levels of learning to occur, simply receiving a message is not enough. After receiving the intended message, you must do something with it. Learning outcomes may emphasize compliance in responding, willingness to act/respond, or satisfaction in responding (motivation). Therefore, responding involves some sort of action or response, such as complying with an Air Force directive or performing some voluntary action and obtaining satisfaction from it. Responding behaviors, at the highest level, reflect interests and activities that bring personal satisfaction.

Valuing

Valuing is the affective domain's third level of learning. This ranges from simple acceptance to the more complex state of commitment. Valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner's overt behavior and are often identifiable. A person at the valuing level responds to a message or action by assigning some worth or value to them.

For example, at first you accept, later prefer, and finally commit yourself to something because of its perceived worth or value. When you value something, you have a deep appreciation for it. Commonly used terms associated with valuing are attitudes and appreciation.



Nearly all lessons in the NCOADL curriculum have an affective (attitude) component at the VALUING level. Achieving the affective learning objectives requires a great deal of involvement on your part. Just acquiring the comprehension and application levels of learning is tough, but you may need to privately confront your own perceptions and feelings about ideals the Air Force expects you to value to reach the third level.

Ultimately, you need to be willing to confront your reservations or reluctance as well as your acceptance and promotion of Air Force policies, both before and after graduation. Failure to do so will hold you back from working through critical issues that are foundational to becoming an effective leader. This aspect of internal transformation and development as a leader is expected.

Affective Levels of Learning			
Level	**Description**	**Example**	**Key Words**
Receiving	• Awareness, willingness to hear, selected attention	• Listen to others with respect • Listen for and remember the name of newly introduced people	asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits, replies, uses
Responding	• Active participation on the part of the learners • Attends and reacts to a particular event • Learning outcomes may emphasize willingness to respond (motivation)	• Participates in class discussions • Gives a presentation • Questions new ideals, concepts, models, etc., in order to fully understand them • Know the safety rules and practices them	answers, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes
Valuing	• The worth or value attached to a specific object, event, or behavior • Ranges from simple acceptance to the more complex state of commitment • Based on internalizing a set of specified values while clues to these values are often identifiable	• Demonstrates belief in the democratic process • Is sensitive towards individual and cultural differences (value diversity) • Shows the ability to solve problems • Proposes a plan to social improvement and follows through with commitment • Informs management on matters that one feels strongly about	completes, demonstrates, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works

Cognitive Domain Levels of Learning

The ***cognitive domain*** is the thinking or reasoning component of learning. In this type of learning, students acquire knowledge by using their mental faculties. This is the type of learning required to become a critical thinker. Understanding the levels of cognitive learning and the cognitive learning objectives used in the NCOADL curriculum will help you understand what the Air Force expects of all graduates.

There are six major levels starting from the simplest behavior to the most complex.[2] The levels can be thought of as degrees of difficulties. That is, the first ones must normally be mastered before the next ones can take place. For the purpose of this course, the first three levels of the cognitive domain will be covered.

*The **cognitive domain** (Bloom, 1956) involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills.*

Knowledge

Knowledge is the cognitive domain's first level of learning and is very basic. It only requires you to keep, remember, recall, label, recognize, and repeat information you have read. Although you already possess much knowledge about the subjects covered, your reading assignments provide further information to bolster your knowledge level.

Comprehension

Comprehension is the cognitive domain's second level of learning. There are three levels of learning within this domain:

1. Translation: Putting things in your own words.

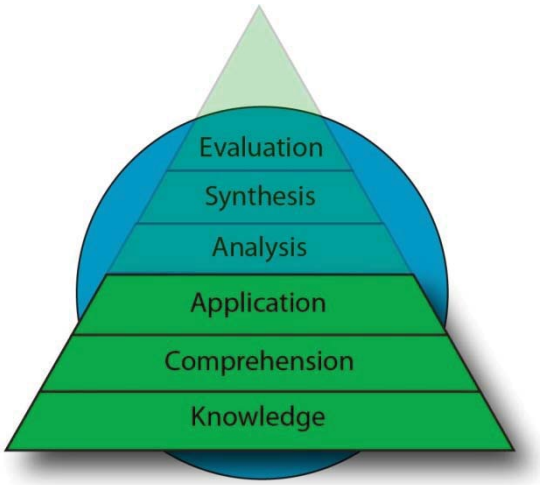
2. Interpretation: Answers the questions "what was the main idea…?" "can you distinguish between…?" and "what is the relationship between…?"

3. Extrapolation: Answers the questions "what do you think could have happened next...?" and "what can you predict…?"

At this level you see relationships, concepts, and abstracts beyond the simple remembering of material. It requires you to demonstrate an understanding of facts and ideas by organizing, comparing, translating, interpreting, describing, and summarizing in order to draw conclusions and solve problems using those facts and ideas. To demonstrate the comprehension-level of learning, students are usually required to describe a relationship between two related concepts. The combining of two or more concepts results in what is referred to as a lesson principle. One example of demonstrating comprehension is being able to explain in your own words the steps for performing a complex task.

Application

Application is the cognitive domain's third level of learning. To demonstrate this level of learning, you must identify lesson principles from among other lesson principles in simulated situations.



After identifying the lesson principle, you must then apply your knowledge and comprehension of lesson principles to solve the problem or deal with the issue appropriately and effectively. An example of demonstrating application is troubleshooting a piece of equipment by using logical deduction.

The levels of learning build upon each other. You must know a subject before you can comprehend it. You must know and comprehend lesson principles before you can apply them.

ALL NCOADL COURSE chapters follow this same basic pattern: the student develops foundational knowledge by reading the content and accomplishing the formative exercises. The reading generally provides definitions and examples of concepts so you are better prepared to comprehend lesson principles. Comprehension of lesson principles allows you to apply them in simulated situations and in your duty capacity.

Cognitive Levels of Learning			
Level	**Description**	**Example**	**Key Words**
Knowledge	• Recall data or information	• Recite a policy • Quote prices from memory to a customer • Knows the safety rules	defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states
Comprehension	• Understand the meaning, translation, interpolation, and interpretation of instructions and problems • State a problem in one's own words	• Rewrites the principles of test writing • Explain in one's own words the steps for performing a complex task • Translates an equation into a computer spreadsheet	comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives an example, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates

Application	• Use a concept in a new situation or use an abstraction without prompt • Applies what was learned in the classroom into novel situations in the work place	• Use a manual to calculate an employee's vacation time • Apply laws of statistics to evaluate the reliability of a written test	applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses

Learning Outcomes, Objectives, and Samples of Behavior

Student Learning Outcome

These statements explain the behavior NCOs are expected to demonstrate after each chapter.

Affective Objectives

Many of the chapters in the NCOADL curriculum have an affective (attitude) component. For example, you are expected to know the Air Force Core Values, but as an NCO, you must accept and adopt them as part of your own value system. Affective objectives are utilized in almost all chapters and are written at the VALUING level.

Ultimately, you need to be willing to discuss your reservations or reluctance as well as your acceptance and promotion of Air Force policies. Failure to do so will hold you back from working through critical issues that are foundational to becoming the military professional the Air Force needs. This aspect of internal transformation, or development, as a leader is expected, but it is entirely up to you. This is your time to prepare yourself, physically and mentally, for the new roles you will be assuming.

Cognitive Objectives

These statements explain cognitive learning outcomes and almost always begin with either know, comprehend, or apply.

Cognitive Samples of Behavior

These statements explain the knowledge, skill, or attitude students are expected to demonstrate at the end of a chapter. You can quickly and easily determine the depth of learning expected by the first word of the statement. For example, words like recall, label, and identify require only rote memory whereas words like describe and explain require you to describe a concept or explain a principle in your own words.

Many NCOADL COURSE chapters require you to demonstrate the interpretation level of comprehension by being able to explain the relationship between two or more concepts.

You must thoroughly comprehend both concepts before you can explain how 'Concept A' impacts 'Concept B.' This gets a bit tricky because you may find that 'Concept A' can impact "Concept B" positively, negatively, both, or not at all. On the other hand, when 'Concept X' enhances 'Concept Y', the relationship is exclusively positive.

Finally, some samples of behavior, or SOB for short, require you to demonstrate application of lesson principles; the highest level of learning. This means that you must use your understanding of underlying concepts to understand which lesson principle is in play and to solve a simulated problem. You'll know you're dealing with application level of learning whenever you see a sample of behavior statement containing the phrase "apply lesson principles to simulated situations."

Teaching Methods

Asynchronous

The NCOADL course uses an asynchronous teaching methodology. Asynchronous teaching is a non-facilitated, self-paced, student-centered teaching method that uses online learning resources to facilitate information sharing outside the normal constraints of time and location to effectively deliver course content. This approach uses self-study to promote distance learning. Asynchronous learning gives you the freedom to access the course and its instructional material at any time, from any location - allowing accessibility for diverse student populations.

Progress Checks/Self-Reflection Opportunities

You will interact with data, as necessary to reinforce, and gauge your grasp of the lesson principles presented. An important aspect of your progress is feedback intended to identify areas that need improvement.

Scenarios and Case Study Analysis

Case studies help bridge the gap between course theory and practice. They provide opportunities to apply previously learned concepts and principles to simulated situations. In the case study, students analyze a simulated, but realistic, situation to achieve an educational objective.

Case studies and scenarios contain common problems encountered by military members. Its greatest value is that it presents opportunities for students to apply previously learned concepts and principles to first identify the problem and then solve it. However, gaining the most value from a case study or scenario requires careful reading, full attention to the content of the case study, and a high degree of maturity on your part.

Case studies and scenarios also help develop critical thinking skills. Diane Halpern, professor of psychology and author of *Thought and Knowledge: An Introduction to Critical Thinking* says that "critical thinking is the use of those cognitive skills or strategies that increase the probability of a desirable outcome."[3] Critical thinking is described as thinking that is purposeful, reasoned, and goal directed.

It is the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions by using skills that are thoughtful and effective for the particular context and type of thinking task.

Critical thinking also involves evaluating the thinking process—the reasoning that went into a conclusion and the kinds of factors considered in making a decision. Critical thinking is valuable to the learning process, and is also a characteristic of effective leadership.

Appropriate vs. Effective and Most Effective

While processing case studies and scenarios, you should ask yourself the following three questions:

1. Are the characters' actions, decisions, or behaviors appropriate or inappropriate?
2. Are the characters' actions, decisions, or behaviors effective or ineffective?
3. Are the characters' actions, decisions, or behaviors most effective?

Appropriate *means suitable for a particular person, place or condition.*

Many people use ***appropriate*** and effective interchangeably. However, when dealing with leadership and management principles, the words mean two very different things.

Appropriate and inappropriate equate to right and wrong, or if you prefer, correct and incorrect. The main thing to remember is there is no degree of right or wrong; no sliding scale. Depending on the lesson principle being presented, actions, decisions, and behaviors are either appropriate (right) or inappropriate (wrong).

On the other hand, a sliding scale accurately describes degrees of effectiveness. That is, actions, decisions, and behaviors can be ineffective, least effective, mostly effective, and most effective.

For example, you observe an Airman in uniform outdoors who is not wearing a hat. According to the lesson principles (enforcing discipline), you must correct the Airman. Choosing to correct the Airman is the appropriate (correct) decision. This also makes choosing not to correct the Airman an inappropriate decision. There is no degree of right or wrong. In other words, you cannot be more right or more wrong in making the decision to correct or not correct the Airman.

However, in the above scenario, when actually correcting the Airman (corrective counseling), your behavior can range from least effective (a very public verbal reprimand) to most effective (correcting the Airman in private). Note that both behaviors are effective. That is, the Airman puts his hat on. However, in most cases, public verbal reprimands are less effective than private corrections. Thus, you see a sliding scale of effectiveness.

You can also be ineffective. For example, when conducting corrective counseling, you should ensure the counselee completely understands what is expected.

Suppose you reprimand the Airman for not wearing his hat, but never actually state you expect him to immediately get his hat and wear it. The Airman could walk away without realizing you want him to get his hat and put it on, thus the counseling is ineffective. How many times have you been in a counseling session where the expected behavior is never actually stated?

Guide to Chapter/Lessons

In this course of instruction, all student guides use the same basic organization and design.

For example, the cognitive objective "Comprehend Unit Discipline" is at the comprehension level of learning, which includes three distinct levels of comprehension: translation, interpretation, and extrapolation. Thus, an example of an interpretation SOB might be, "*Explain the relationship between unit discipline, unit morale, and mission accomplishment*." This SOB is asking you to take what you learned from reading materials and interpret it to explain the relationship using lesson principles, but in your own words.

On the other hand, an SOB at the extrapolation level might look like this, "*Predict the outcome of actions, decisions, and behaviors involving Rights of the Accused, Preventative Discipline, and Unit Discipline principles in simulated situations*." In this case, you must achieve one level above interpretation because now you need to describe a future state using lesson principles in your own words. Because there is such a fine line between interpretation and extrapolation, you'll find it very beneficial to pay close attention to what the SOBs are asking you to do. Various learning aids are incorporated into each chapter. The learning aids consist of the following:

Definition Boxes

Definition boxes contain key terms and definitions. It's important that you review these terms since they aren't defined in the content. You must have an understanding of these terms in order to grasp the concepts and principles.

Change sponsors *are the people responsible for initiating change within an organization.*

Figure 1. Sample definition box

Reference Boxes

Reference boxes are located throughout the chapters and are a vital step to understanding and valuing the chapter concepts and principles. These boxes contain additional information from core documents such as: AFI 36-2618, Enlisted Force Structure; Air Force Core Values Booklet; and ANNEX 1-1, Leadership and Force Development. Other AFIs and regulations are also included that are pertinent to the specific chapter material.

The core value, Service Before Self, states that Professionals can't indulge themselves in self-pity, discouragement, anger, frustration, or defeatism. They have a fundamental moral obligation to the people they lead to strike a tone of confidence and forward-looking optimism.

Figure 2. Sample reference box

Emphasis Box

Emphasis boxes focus your attention on important information located throughout the chapters. These boxes contain additional information on the topic. They serve to summarize information through bulleted lists or highlight pertinent passages of supplemental information.

National Security Strategy Tasks

- *Championing aspirations for human dignity*
- *Strengthening alliances to defeat terrorism*

Figure 3. Sample Emphasis Box

Self-Reflection Opportunities

These boxes will provide you with an opportunity to stop and think about how the chapter material directly impacts you and your Airmen. When you see one of these boxes, take the time to pause and take an honest look at yourself. The goal of this course is to help you become a better Airman, supervisor, and leader. Reading the material and answering questions isn't enough. You must internalize the information.

SELF-REFLECTION OPPORTUNITY: Have you ever had to implement a change you didn't agree with? How did you handle it? Did you support it with a positive attitude? If not, what would you do differently?

Figure 4. Example of a Self-Reflection Opportunity

Scenarios

Throughout the course, you'll be presented with mini real-world scenarios to help you practice making effective decisions based on the chapter content. In most cases, there will be a few questions following the scenarios you'll have to answer based on what you've learned.

TSgt Elm, the NCOIC of a maintenance work center, has identified a more efficient maintenance procedure. After informing everyone of the new procedure, he asked SSgt Pine to implement it throughout the shop.

All technicians, including SSgt Pine, have to train on and perform the new procedure.

Figure 5. Sample Scenario Box

Progress Checks

As you progress through the chapters, you'll find progress checks along the way. Take these opportunities to evaluate how well you understand the chapter material. They are located at the end of each major section throughout the course. The Progress Checks can be in the form of crossword puzzles, traditional true and false, matching, fill-in, etc.

The answers for the Progress Checks are located at the end of each chapter; however, in order to make this learning experience as valuable as possible, try to answer the questions before looking up the answers!

Formative Exercises and Summative Evaluations

The NCOADL course employs a *formative exercise* and *summative evaluation* system. The formative exercise is part of the learning process and is not part of the evaluation process. The formative exercise is designed to provide feedback to you on your strengths and weaknesses. It is given under the exact conditions as the summative evaluation and provides an opportunity to prepare for the summative evaluation. **Thus, formative exercises are considered exercises in learning, and passing them is NOT a requirement for graduation;** however, you should prepare for formative exercises the same way you prepare for summative evaluations, i.e., give them the same weight or seriousness when studying, reviewing, etc. That way, the formative exercises will serve their purpose, which is to give you a clear indication of where you stand for the summative evaluations. The summative evaluations determine whether you possess the requisite knowledge, skills, and abilities to perform as a military professional in the US Air Force. They will be the measuring stick to determine whether you have met the learning objectives of the NCOADL course.

All test questions are patterned after the following test questions. For practice, try answering the following sample questions.

1. TSgt Shelby listens as the NCOA instructor says, "The course is rigorous so you'll want to manage your time wisely because your achievements depend entirely on the effort you put forth. Invest time in reviewing lesson objectives and samples of behavior because they help you prepare for in class sessions as well as exams. Although we use various teaching methods to appeal to all learning styles, most students find it takes effective study habits, critical thinking, and effective use of EPME's structured thinking process to make it through the course."

   The comments **BEST** explain _____ concepts and how they contribute to individual success.

   a. time management

   b. successful learning

   c. teaching methods and effective study habits

2. The day before graduating, TSgt Shelby is showing her dad, a military retiree, around the campus when he asks, "What was the hardest part of the course?" Shelby replies, "The schedule was hard at first because I was juggling reading, writing, and homework assignments plus marathon study sessions with my flight. I finally settled into a routine that helped me pay attention in class, take good notes, and actively participate in classroom discussions. However, I would have to say the hardest part for me was the public speaking. Thank goodness, my flight came together to practice all the time.

   TSgt Shelby's comments **BEST** illustrate:

   a. time managements impact on an individual's public speaking success

   b. how study and practice habits can impact an individual's time management

   c. steps of the learning process and how they contribute to individual success

3. On graduation day, during a discussion with a fellow instructor concerning student performance, TSgt Bright says, "TSgt Shelby worked hard, completed all assignments, always participated in class, and did a great job with her speaking assignments. She took good notes, which she generously shared the flight and she organized several study sessions which probably helped her and her peers score well on the final exam." The other instructor says, "It sounds like you may have more than one distinguished graduate on your hands."

   TSgt Shelby's use of _____ will **MOST LIKELY** earn her _____.

   a. successful learning; a graduation diploma

   b. study habits and class participation; an academic achievement award

   c. time management and study habits; a distinguished graduate certificate

All questions on the formative and summative examinations are assessed at the comprehension level. For example:

1. ***Question 1*** assesses the lowest level of comprehension as evidenced by the word "explain" in the question. Because these types of questions are slightly above the knowledge level (memorization), exact words, synonyms, or both are used to "explain" the concept. If you know terms and definitions associated with major concepts well enough, then its exact words or synonyms, the concept should jump off the page for you. Remember, pay close attention to terminal samples of behavior.

TSgt Shelby listens as the NCOA instructor says, "The course is rigorous so you'll want to ***manage your time wisely*** because your achievements depend entirely on the effort you put forth. Invest time in ***reviewing lesson objectives and samples of behavior*** because they help you prepare for in class sessions as well as exams. Although we use ***various teaching methods to appeal to all learning styles***, most students find it takes ***effective study habits, critical thinking, and effective use of EPME's structured thinking process*** to make it through the course."
The comments **BEST** explain _____ concepts and how they contribute to individual success.

a. time management

b. **successful learning**

c. teaching methods and effective study habits

2. ***Question 2*** assesses the second level of comprehension as evidenced by the word "illustrate" in the question. These questions are harder because they usually involve a scenario that does not directly describe the concept but offers an example of the concept in use. Therefore, just knowing terms and definitions is not enough. You must know the all of key elements of a concept well enough to identify it and to know whether its use is appropriate/inappropriate or effective/ineffective. These questions typically include the impact or result in the scenario, but sometimes the impact is implied.

The day before graduating, TSgt Shelby is showing her dad, a military retiree, around the campus when he asks, "What was the hardest part of the course?" Shelby replies, "The schedule was hard at first because I was juggling reading, writing, and homework assignments plus marathon study sessions with my flight. I finally settled into a routine that helped me pay attention in class, take good notes, and actively participate in classroom discussions. However, I would have to say the hardest part for me was the public speaking. Thank goodness, my flight came together to practice all the time.

TSgt Shelby's comments **BEST** illustrate:

a. time managements impact on an individual's public speaking success

b. how study and practice habits can impact an individual's time management

c. **steps of the learning process and how they contribute to individual success**

3. ***Question 3*** assesses the highest level of comprehension as evidenced by the phrases such as "**MOST LIKELY**" or "Probably result in," and so forth. These questions not only require you to know the all of key elements of a concept well enough to identify it and to know whether its use is appropriate/inappropriate or effective/ineffective, you must be able to predict the outcome of the actions, decisions, or behaviors described in the scenario.

   On graduation day, during a discussion with a fellow instructor concerning student performance, TSgt Bright says, "TSgt Shelby worked hard, completed all assignments, always participated in class, and did a great job with her speaking assignments. She took good notes, which she generously shared the flight and she organized several study sessions which probably helped her and her peers score well on the final exam." The other instructor says, "It sounds like you may have more than one distinguished graduate on your hands."

   TSgt Shelby's use of _____ will **MOST LIKELY** earn her _____.

   a. **successful learning; a graduation diploma**

   b. study habits and class participation; an academic achievement award

   c. time management and study habits; a distinguished graduate certificate

By now, you have probably figured out that predict level questions are the most difficult, give example questions are slightly difficult, and explain questions are moderately easy. The NCOADL course tests include a mix of all three types of questions.

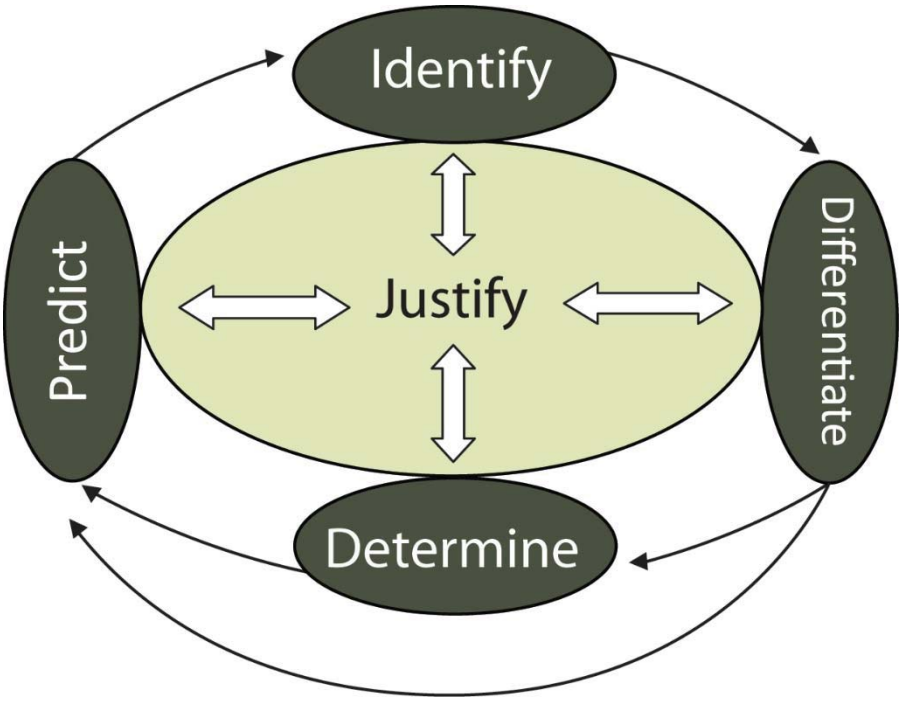
Finally, you got through K-12 and maybe even many college courses by memorizing terms and definitions. That method will not work here. Memorization will only get you past the knowledge and low-level comprehension questions. To be truly successful, you must learn all of the elements of all of the concepts, know how they are supposed to be used and why, and know what happens when concepts are and are not applied appropriately and/or effectively.

With the teaching methods and student guides covered, it's time to explore the IDDP Structured Thinking Process used in the NCOADLC.

IDDP Structured Thinking Process/Critical Thinking

NCOs spend the majority of their time solving problems, but most never give much thought to how they go about it. If you stop and think about it, you solve almost every problem using the same process over and over. First, you identify what's going on, and then you decide whether what you see is right or wrong, effective or ineffective. If you decide what you see is effective, you usually move on to other things. On the other hand, if you decide that what you see is inappropriate or ineffective, you determine what should be done and then take action to correct the situation or fix the problem. You take particular actions because you believe the outcome will be positive.

Now, if you had to describe the above steps using just four words, what four words would you choose? Dr. Hunter, Dean of EPME in the late 90s, chose the words identify, differentiate, determine, and justify and designed curriculum around these four words or, to be more accurate, these four steps. Later, the word predict was added and the word justify removed as a stand-alone step and added as a sub-step to each primary step.



Dr. Hunter and his team, and deans that followed Dr. Hunter, have consistently used the four steps when designing scenarios and case studies. Over the years, it has proven to be a simple method for helping students think through course material in a structured manner. Students who follow the process exactly report a much deeper understanding of lesson concepts and principles and thus achieving the application level of learning and becoming more effective leaders.

Using the IDDP Structured Thinking Process

EPME breaks the application level of learning into two distinct categories. The first category is ***minimum application*** which learners demonstrate when they complete the IDENTIFY step of IDDP. The second category is ***maximum application*** which learners demonstrate when they complete the entire IDDP Structured Thinking Process. In this course, you will use the minimum and maximum applications.

The first situation requires you to demonstrate a basic understanding of course content. You accomplish this by recognizing critical attributes and associating them with the correct concept or principle under discussion. We call this the minimum level of application.

The second situation requires you to demonstrate a thorough understanding of course content. You accomplish this by successfully completing the entire IDDP process. This means you must be able to solve problems and predict outcomes using your knowledge of the concepts and principles taught. We call this the maximum level of application.

To get a better understanding of what we mean by minimum and maximum levels, let us examine each step of the IDDP process and then work through two scenarios.

Identify

Purpose: As the first step of the IDDP Structured Thinking Process, this step allows you to demonstrate your ability to identify concepts or principles associated with specific chapters.

This step is crucial toward solving problems correctly. Skipping this step or giving it a fleeting look often results in wasted time and effort because either you try to solve a nonexistent problem or you take actions that create more problems than they solve. Once you have identified the problem, you must justify your answer based on lesson concepts and principles taught rather than on personal opinion or outside experience. Remember, completing only this step demonstrates a basic understanding of course content.

Differentiate

Purpose: This second step allows you to demonstrate your ability to distinguish whether actions, decisions, or behaviors described in the scenario are appropriate/inappropriate, effective/ineffective, or most effective according to lesson concepts and principles.

Your successful completion of this step demonstrates a thorough understanding of the concept(s) and principles associated with the actions, decisions, or behaviors described in the simulated situation. There is no “degree” of appropriate/inappropriate; something is either right or wrong. Choosing not to correct an infraction is inappropriate (wrong).

In contrast, there are degrees of effectiveness; something can be ineffective, somewhat effective, effective, highly effective, or most effective. These degrees of effectiveness are most obvious when applying leadership and management models.

For example, using some of the steps of performance counseling usually results in a somewhat effective counseling session whereas using most of the steps would result in an effective or even highly effective session.

As always, justify your answers based on lesson concepts and principles taught rather than on personal opinion or experience. This also allows you to assess your level of understanding of the concept or principle under discussion and, when necessary, go back over any areas that are still confusing to you.

It is important to note that if you differentiate actions, decisions, or behaviors described in the scenario as appropriate, effective, or most effective then skip the determine step and go straight to the predict step.

Determine

Purpose: When actions, decisions, or behaviors described in a scenario are inappropriate or ineffective, this third step allows you to demonstrate your ability to determine an appropriate and/or effective course of action based on your understanding of lesson concepts and principles.

Recommended course(s) of action must adhere to lesson concepts and principles taught rather than one's opinion or experience. Remember, you are solving problems that have single or best answers. A recommended course of action may include both appropriate and effective decisions, actions, and behaviors. For example, when subordinates fall below standards it is appropriate for supervisors to 'choose" to provide corrective counseling and, it's effective when supervisors use most/all of the performance counseling steps.

As before, you must justify your answer based on lesson concepts and principles taught rather than on personal opinion or outside experience

Predict

Purpose: This final step allows you to demonstrate your ability to answer the question, "What would happen if?" That is to make predictions or extensions of consequences or trends based on the information in the scenario rather than on information brought from other experiences. This provides you with an opportunity to practice high-order thinking.

Your predictions must address the lesson principle (how one concept relates to or impacts another concept). Questions you must answer at this stage normally include either of the following:

"What can you predict will happen if the individual continues using an appropriate/effective course of action?"

"What can you predict will happen if the individual continues using an inappropriate/ineffective course of action?"

As before, you must justify your answer based on lesson concepts and principles taught rather than on personal opinion or outside experience.

During the next section of the chapter, you will walk through the IDDP Structured Thinking Process answering questions associated with each step of the process. The scenario below is a simple training scenario that covers the entire IDDP process.

1 SMSgt Williams called White's supervisor, Master Sergeant (MSgt) Browning.
2 MSgt Browning told him she had noticed changes in SSgt White's behavior since his
3 recent move to the DPU. For example, instead of taking a break for lunch, SSgt White
4 ate junk food at his desk while he took call-ins at the same time. White had been working
5 late, but never seemed to catch up with his paperwork. SSgt White had also
6 criticized the unit and had not attended the last two unit picnics. MSgt Browning
7 arranged to meet with SMSgt Williams to talk more about SSgt White.

In the IDENTIFY step, first, you should attempt to answer the five w's of who, what, where, when, and why, doing so will provide a brief synopsis explaining what's going on in this scenario. Be sure to name the main character(s) and briefly explain what you know about them. Finally, you'll be asked to identify which traits under the core values are evident in the scenario.

Here is an example of the IDDP process in action based on the scenario above.

Question	Your Answer
What's going on in this storyline?	SSgt White's behavior has changed. He seems overworked, talks bad about the unit, and avoids unit functions.
Who are the main characters and what do we know about them?	SSgt White works in the Demand Processing Unit (DPU) of Base Supply. MSgt Browning is SSgt White's supervisor.
What lesson principles are evident in this storyline? *(Identify question)*	Organizational Stress *(Identify answer)*
Where do you see organizational stress? *(Continuation of the Identify step)*	On Lines 3 – 5 *(Continuation of the Identify step answer)*
Why is that organizational stress? *(Justify question)*	Because SSgt White does not take breaks, eats at his desk while still taking calls and, although he works late, he never catches up with his paperwork. *(Justify answer)*

At this point, you might think you did a good job of justifying your answer, but, upon closer examination, you can see that you only repeated text from the paragraph.

The question, "Why is that organizational stress?" is asking you why/how the statements that you identified relates to organizational stress. In this example, you failed to justify your answer because you did not tie the statements to concepts associated with stress. Justification helps you to assess your level of understanding of the concept or principle under discussion. It provides an opportunity for you to practice critical thinking.

So, let's pick up at the question, "Why is that organizational stress?" However, this time try to justify your answers based on lesson concepts and principles.

Question	Your Answer
Why is that organizational stress? *(Justify question)*	In the stress chapter, I learned about psychological, physiological, and behavioral symptoms associated with stress. I also learned about overload and role ambiguity. In this scenario, SSgt White is eating junk food and taking calls at his desk, which are behavioral symptoms. Because SSgt White never seems to catch up his paperwork, he could be experiencing work overload, which may be caused by unrealistic deadlines, insufficient training, emotional fatigue, etc. At this point in the case study, I can't say for certain what's causing SSgt White to not complete his work. Finally, I know SSgt White recently moved to the DPU, and he may not have enough information to perform all duties satisfactorily, which is an indicator of role ambiguity.

Much better! You've properly justified your answer based on lesson concepts and principles. In some scenarios you would be finished at the end of the IDENTIFY step, but because this scenario includes actions, decisions, and behaviors, you are required to continued through the entire IDDP process.

What do you think about MSgt Browning's actions concerning SSgt White? *(Differentiate step question)*	Her actions are ineffective. *(Differentiate step answer)*
Why do you say ineffective? *(Continuation of Differentiate step question)*	Because in the stress chapter, I learned the first thing supervisors must do is recognize the symptoms of stress and then take action to reduce it or mitigate its effects.

	In this scenario, MSgt Browning notices SSgt White's change in behavior and all of the other symptoms because she tells SMSgt Williams about them. However, rather than discuss the issue with SSgt White, she arranges to meet with SMSgt Williams instead. *(Justify step answers)*

In the DIFFERENTIATE/Justify step, you made a distinction between actions, decisions, or behaviors and if they were appropriate/inappropriate, and/or effective/ineffective. If the differentiation was inappropriate or ineffective, you moved on to the determine step. On the other hand, if the differentiation was appropriate or effective, you skip the determine step and went directly to the predict step.

What should MSgt Browning do? *(Determine step question)*	In the stress lesson, organizational stress management methods such as job redesign, subordinate involvement, personnel job placement, and improving the work environment were outlined. MSgt Browning should speak with SSgt White, which is subordinate involvement, to first determine what's causing his stress and then use the appropriate stress management methods to reduce his stress. For example, she may be able to reduce White's workload. *(Justify step answer)*

In the DETERMINE/Justify step, you were required to establish a proper course of action based on lesson principles.

Let's assume MSgt Browning follows your advice. What can you Predict will be the impact on SSgt White and the DPU? *(Predict step question – positive impact)*	According to stress management lesson principles, if she takes action to reduce the organizational stressors, SSgt White's personal situation will improve, which will have a positive impact on his health and morale, and which, in turn, will improve the quality and quantity of his work. Additionally, his improved performance and morale will have a positive impact on the DPU's overall production and workforce. *(Predict step answer – positive impact)*
Now, let's assume MSgt Browning, who up to this point has done nothing to help SSgt White, decides to ignore your advice, what can you Predict will be the impact on SSgt White and the DPU? *(Predict step question – negative impact)*	According to stress management lesson principles, if she does not take action to reduce the stressors causing SSgt White's stress, his personal situation will get worse and, as his situation deteriorates, so will his performance, which will also negatively impact the overall production of the DPU. For example, unless SSgt White gets some relief from his stress, the quality and quantity of work will continue to suffer. He may begin to experience headaches or backaches and, if his stress continues long enough, he could lose sleep, experience family problems, become depressed, end up with high blood pressure, and even experience a heart attack. *(Predict step question answer– negative impact)*

In the PREDICT/Justify step, you were expected to predict the likely outcomes of the selected course of action. This is where the rubber met the road. NCOs who grasp the concepts taught in NCOADL course are very effective at solving problems. They are not only able to identify the true problem; they are able to select the most effective course of action because they also fully understand the impact (future outcome) of their decisions.

In the above example, you were required to justify every answer based on lesson principles rather than simply repeating what's in the scenario text. This example should give you a good indication of what's expected when using the IDDP Structured Thinking Process.

In order to fully understand how to use the IDDP process, you must understand its relationship to lesson principles. A typical principle statement calls for a relationship between two or more concepts stated in terms of a conclusion. Here is one example of a principle statement:

"Comprehend team building's impact on mission accomplishment."

Did you notice the stated conclusion? The word impact implies a relationship exists between team building and mission accomplishment. However, the statement does not say whether that impact is positive or negative. This is done on purpose to encourage you to examine both sides of an issue. By the way, the following concepts are used throughout the course to build principle statements:

1. NCO Effectiveness
2. Mission Accomplishment
3. Unit Effectiveness
4. Subordinate Performance/Conduct
5. Team Effectiveness/Performance

Since lesson principles describe the learning outcome, expect to see the above concepts show up in various lessons as part of the lesson's principle statements. For example, you just encountered an example of the IDDP process in action using the stress management principle statement. You were asked to "Comprehend the relationship between stress management and *subordinate performance/conduct*."

Critical Thinking

Critical thinking has been defined as:

"The art of analyzing and evaluating thinking with a view to improve it; critical thinking is, in short, self-directed, self-disciplined, self-monitored, and self-corrective thinking. It requires rigorous standards of excellence and mindful command of their use. It entails effective communication and problem-solving abilities, as well as a commitment to overcome our native egocentrism and sociocentrism.[4]

The Critical Thinking Sub-Skills

Investigate

Investigation involves identifying the real problem(s), gathering pertinent data, asking appropriate questions, analyzing and judging the value of available information, constructively challenging ideas, and questioning assumptions. There are three actions that support one's ability to investigate: *interpretation*, *analysis*, and *Inference*.

- *Interpretation* is extremely important when investigating and is the ability to "comprehend and express the meaning or significance of a wide variety of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria."[17]

- *Analysis* assists investigations where one identifies "the intended and actual inferential relationships among statements, questions, concepts, descriptions, or other forms of representation intended to express belief, judgment, experiences, reasons, information, or opinions."[18]

- *Inference* means "to identify and secure elements needed to draw reasonable conclusions; to form conjectures and hypotheses; to consider relevant information and to educe the consequences flowing from data, statements, principles, evidence, judgments, beliefs, opinions, concepts, descriptions, questions, or other forms of representation."[19]

Create and Develop

Critical thinkers use his or her imagination and understanding of a matter to create logical ideas and explore possibilities. While expanding (developing) ideas with all the information gathered, they are constantly on the lookout for patterns, recognizable differences, generalizations, and plausible conclusions and predictable outcomes. Oftentimes, we are faced with situations where all the information is simply unavailable. It is during these instances that the critical thinker relies on his or her abilities to creatively think and "fill in the blanks" with logical information and assumptions.

Communicate

Critical thinkers interact with different audiences not to argue, debate, or criticize, but to collect, consider, and accept the inputs of others. Within and across organizations, we are often teamed with other adaptive and innovative thinkers to investigate situations, and create [develop] logical thoughts. With this in mind, we must always remain cognizant, considerate, and open to the perspectives and inputs of others as we seek best possible solutions to problems and strategies to situation improvement. The sub-skill set of explanation is essential to effective, intellectual communication.

- *Explanation*: the ability to present in a cogent and coherent way the results of one's reasoning.

It is "to state and to justify that reasoning in terms of the evidential, conceptual, methodological, criteriological, and contextual considerations upon which one's results were based; and to present one's reasoning in the form of cogent arguments."[20]

Evaluate

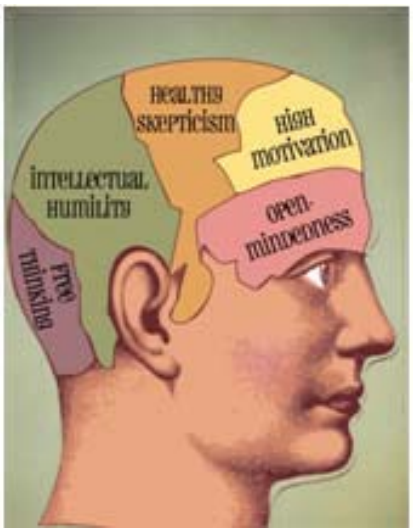
Evaluation is assessing "the credibility of statements or other representations which are accounts or descriptions of a person's perception, experience, situation, judgment, belief, or opinion; and to assess the logical strength of the actual or intended inferential relationships among statements, descriptions, questions or other forms of representation."[21] Critical thinkers must often go to great lengths to thoroughly evaluate the accuracy and validity of information, whether specific claims are true, if perspectives are rational, and if identified solutions and alternatives are in fact reasonable. Other variables susceptible to evaluation also include: related arguments, interpretations, beliefs, theories, policies and regulations, and one's own reasoning.[22] Self-regulation is a sub-skill set of evaluation.

Healthy Skepticism: *Too much skepticism will lead you to doubt everything and commit yourself to nothing, whereas too little will lead one to gullibility and credulousness.*

- *Self-regulation* means to "self-consciously monitor one's cognitive activities, the elements used in those activities by applying skills in analysis, and evaluation to one's own inferential judgments with a view toward questioning, confirming, validating, or correcting either one's reasoning or one's results."[23]

Characteristics of the Critical Thinker

Critical thinking is more than thinking logically or analytically, it also means thinking rationally or objectively. There is an important distinction. Logic and analysis are essentially philosophical and exacting concepts, whereas thinking rationally and objectively are broader concepts that embody the fields of psychology and sociology.



The first step to becoming a proficient critical thinker is developing the proper attitude that embodies the following characteristics: *open-mindedness*, *healthy skepticism*, *intellectual humility*, *free-thinking*, and *high motivation*.

The first two characteristics may seem contradictory; however, the critical thinker must be willing to consider, investigate, and evaluate viewpoints different from his or her own while recognizing that do not merit such consideration. A critical thinker must be neither inflexible nor naive.

Therefore, being both ***open-minded*** and ***skeptical*** means simply seeking the facts, information, and data along with the reasoning to support issues you intend to evaluate.

It is examining issues from as many perspectives as possible, seeking the positive and negative points of each, and even accepting the fact that you may be in error yourself. In the end, as a critical thinker we must always remain focused on seeking the truth rather than merely trying to please others or finding fault with their views.

Intellectual humility means adhering tentatively to recently acquired opinions and belief and being prepared to examine all new evidence and arguments even if such efforts leads you to discover flaws in your own cherished opinions and beliefs. This requires us to stop thinking that every complex issue can be reduced to a principle of right and wrong or black and white. Instead, we must begin thinking in terms of degrees of certainty and shades of grey. Sometimes, "I don't know" can be the wisest position to take on an issue. Socrates once said, *"Arrogance does not befit the critical thinker."*

A critical thinker must also have an independent mind and be a ***free-thinker***. To think freely, you must restrain your desire to agree and accept an opinion or belief because of social pressures to conform. This can be quite difficult and virtually impossible for some. You must be willing to ask if conformity is motivating your belief or opinion and, if so, have the strength and courage to at least temporarily abandon your position until you can complete a more objective and thorough evaluation.

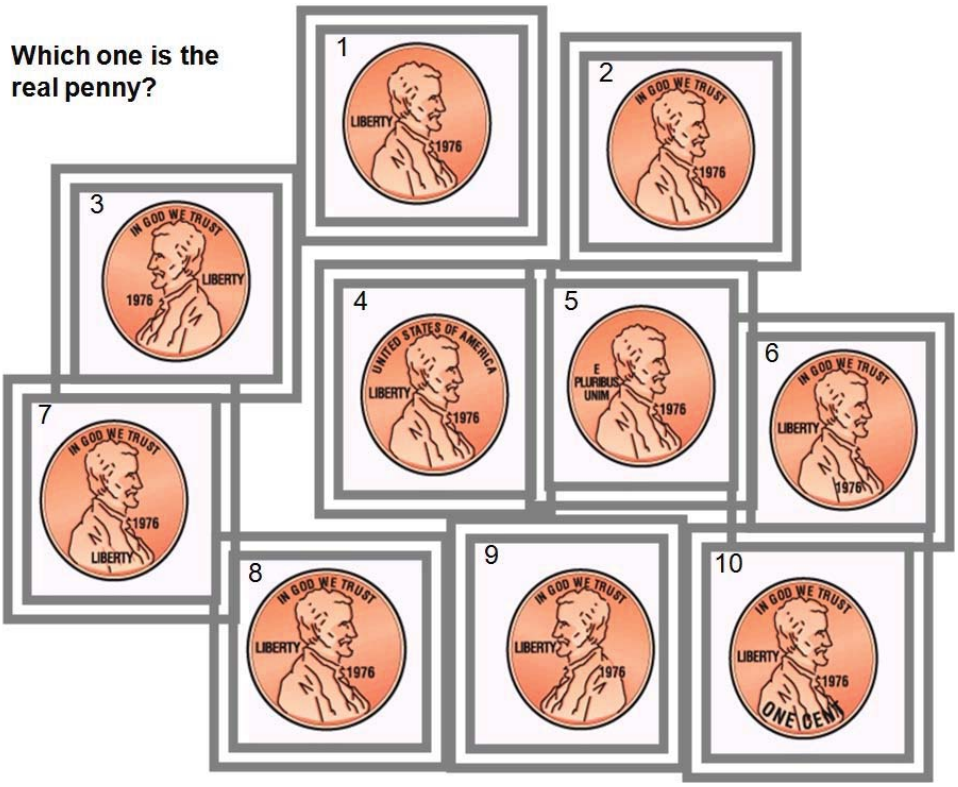
Finally, the critical thinker must possess a natural curiosity to pursue his or her understanding of a matter and be ***highly motivated*** to put in the effort necessary to evaluating multiple sides of the issue. This may require the critical thinker to ask many questions, which can be unsettling to those expected to respond.

Isadore Rabbi, a Nobel-prize winning physicist, tells a story of his childhood in the Jewish ghetto of New York. When the children came home from school, their mothers would ask them, "What did you learn in school today?" But Isadore's mother would ask him, "What good questions did you ask today?" Dr. Rabbi suggests he became a physicist and won the Nobel Prize because he was valued more for the questions he was asking than the answers he provided.[24]

Asking questions is one of the most important things you can do on your journey to becoming a good critical thinker. A critical thinker cannot be a lazy thinker! A critical thinker must be careful not to fall into a drone mentality or being set on "autopilot" where you fall into a pattern of not paying attention to the world around you—it can easily sneak up on you. Here is an exercise to see if you have ***drone creep***.

Exercise: Drone Creep

So how much do you pay attention to the world around you? Can you identify a common, everyday object you've handled countless times throughout your life?



SELF-REFLECTION OPPORTUNITY: How many times have you heard the saying, "This is how we've always done it?" How can having the critical thinking mindset increase your ability and affect the unit and mission effectiveness?

Progress Check

2. What are the four sub-skill sets of critical thinking?

3. What does *self-regulation* mean?

4. What is *open-mindedness*?

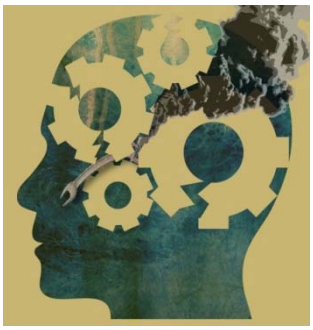
5. How can you be open-minded and still maintain a healthy sense of skepticism?

6. What does *intellectual humility* mean?

7. What does it mean to be a *free-thinker*?

8. What does it mean to have a high motivation to become a critical thinker?

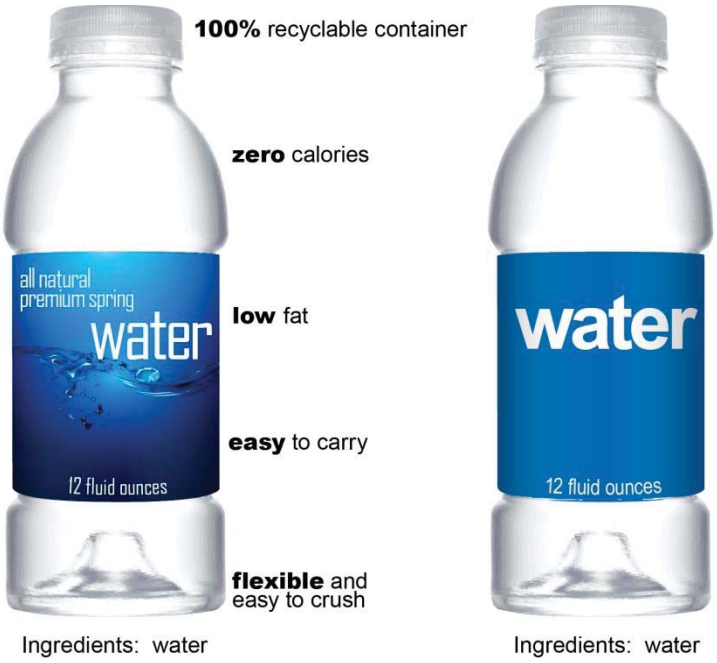
Critical Thinking Hindrances



Each day of your life you become exposed to things that hinder and obstruct your ability to think clearly, accurately, and fairly. Some of these hindrances result from unintentional and natural human limitations, whereas others are clearly calculated and manipulative. Some are obvious, but most are subtle or insidious. Armed with the proper attitude, a critical thinker must next understand how to recognize and avoid (or mitigate) the gauntlet of deception that characterizes everyday life. These hindrances can be divided into four categories:

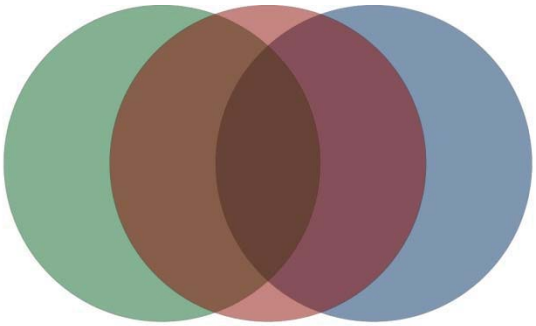
- **Basic Human Limitations –** These apply to everyone, including the greatest of critical thinkers. These limitations remind us that we are not perfect and that our understanding of facts, perceptions, memories, built-in biases, etc., precludes our ability of ever seeing or understanding the world with total objectivity and clarity. The best one can do is to acquire a sufficient or adequate understanding of the matter at hand.

- **Use of Language -** Is inherently relevant to critical thinking. The choice of words themselves can conceal the truth, mislead, confuse, or deceive. From advertisements that guarantee fast and easy weight loss to politicians assuring prosperity and riches for everyone, a critical thinker must learn to recognize when words are not intended to communicate ideas or feelings, but rather to control thought and behavior.



- **Faulty Logic or Perception –** This leads to misconceptions, which are the basis of false or mistaken ideas.

- **Psychological or Sociological Pitfalls** - Perceptions can be misinterpreted due to psychological and sociological influences, and reasoning can be twisted to gain influence and power. Consider the following visual example:



Statement 1: Most of the Green is touching the Red. ***True***

Statement 2: Most of the Red is touching the Blue. ***True***

Statement 3: Since most of the Green is touching the Red and most of the Red is touching the Blue, most of the Green must be touching the Blue. ***False***

Exercise: Critical Thinking Hindrances

Match the hindrances/definitions number to its corresponding example. Indicate your responses by writing the numbers in the left-hand boxes. Then brainstorm one or two tips that will help you avoid falling prey to each hindrance.

Basic Human Limitations		
Hindrance	**Example**	**Critical Thinking Tip**
	Air traffic controllers often have difficulty making good judgments after long hours on duty.	
	Dramatic stories of Bigfoot sightings do not prove the existence of Bigfoot.	
	If one believes that more murders occur during a full moon, then one will tend to take notice of murders that occur during a full moon and tend *not* to take notice of murders that occur at other times.	
	Police officers should *not* show a photo of a possible assailant to a witness prior to a police lineup, or the actual memory of the witness may be unconsciously replaced.	
	Some people are biased against claims made by scientists because their worldview appears too cold and impersonal.	

Hindrances/Definitions

1. **Physical and Emotional Hindrances:** Stress, fatigue, drugs, and related hindrances can severely affect your ability to think clearly and critically.

2. **Confirmation Bias and Selective Thinking:** The process whereby you tend to notice and look for what confirms your beliefs, and to ignore, not look for, or undervalue the relevance of what contradicts your beliefs.

3. **Testimonial Evidence:** Relying on the testimonies and vivid anecdotes of others to substantiate your own beliefs, even though testimonies are inherently subjective, inaccurate, unreliable, biased, and occasionally fraudulent.

4. **Personal Biases and Prejudices:** Everyone has personal biases and prejudices resulting from their own unique life experiences and worldview that make it difficult to remain objective and think critically.

5. **False Memories and Confabulation:** Being unaware that your memories are often "manufactured" to fill in the gaps in your recollection, or that some memories or facts, over time, can be unconsciously replaced with fantasy.

Use of Language		
Hindrance	**Example**	**Critical Thinking Tip**
	Naming detergents "Joy" and "Cheer" (positive), not "Dreary" and "Tedious" (negative). The military using the phrase "neutralizing the opposition" (less negative) rather than "killing" (negative).	
	An ad that claims a battery lasts "up to" 30% longer but does not say it will last 30% longer, and if it did, longer than what.	
	The dairy industry cleverly expresses fat content as a percentage of weight, not of calories. Thus 2% "low" fat milk really has 31% fat	

	when fat is measured as a percentage of calories.	
	Referring to a family as "a bounded plurality of role-playing individuals" or a homeless person as a "non-goal oriented member of society."	
	Expressions such as "As everyone knows…" and "Common sense tells us that…"	
	From the statement "Lying expert testified at trial", is the expert a liar or is the person an expert on telling when someone is lying?	

Hindrances/Definitions

1. **Doublespeak Jargon:** The use of technical language to make the simple seem complex, the trivial seem profound, or the insignificant seem important, all done intentionally to impress others.

2. **Meaningless Comparisons:** Language that implies that something is superior but retreats from that view.

3. **Assuring Expressions:** Using expressions that disarm you from questioning the validity of an argument.

4. **Ambiguity:** A word or expression that can be understood in more than one way.

5. **False Implications:** Language that is clear and accurate but misleading because it suggests something false.

6. **Emotive Content:** Intentionally using words to arouse feelings about a subject to bias others positively or negatively in order to gain influence or power.

Faulty Logic or Perception		
Hindrance	**Example**	**Critical Thinking Tip**

	Irrationally believing that how one wears their hat while watching a football game can influence the score.	
	Making a claim that Printer A makes better copies than Printer B, while ignoring the important fact that only Printer B can also fax, copy, and scan.	
	Arguing that two children sharing the same bedroom is wrong because double-celling of criminals in a penitentiary can lead to bad behavior.	
	"Because regulators have controlled smoking in public places, their ultimate goal is to control everything else in our lives."	
	After using a magnetic belt for a while, a woman notices her back pain is less, even though there may be a dozen other reasons for the reduced back pain.	
	Believing that there must be life on Mars because no one has proved that there is not life on Mars.	

Hindrance/Definitions

1. **Pragmatic Fallacy:** Arguing something is true because "it works," even though the causality between this something and the outcome are not demonstrated.

2. **Slippery Slope Fallacy:** An argument that assumes as *adverse* chain of events will occur but offers no proof.

3. **Irrelevant Comparisons:** Making a comparison that is irrelevant or inappropriate.

4. **Argument from Ignorance:** A logical fallacy claiming something is true because it has not been proven false.

5. **Apophenia* and Superstition:** Erroneous perception of the connections between unrelated events.

   * Meaning "unmotivated seeing of connections" accompanied by a "specific experience of an abnormal meaningfulness" has come to represent the human tendency to seek patterns in random nature in general, as with gambling, paranormal phenomena, religion, and even attempts at scientific observation.

6. **False Analogies:** Making illogical analogies to support the validity of a particular claim.

Psychological and Sociological Pitfalls		
Hindrance	**Example**	**Critical Thinking Tip**
	"Anyone who supports removing troops from Iraq is a traitor!"	
	Making jokes about one's own character in order to disarm critics and evade having to defend policy.	
	Advertisements that appeal to one's vanity, pity, guilt, fear, or desire for pleasure, while providing no logical reasons to support their product being better than a competitor.	
	"You should not believe a word my opponent says because he is just bitter because I am ahead in the polls."	
	"You are either with us, or with the terrorists!"	
	Thousands of years ago the average person believed that the world was	

	flat simply because most other people believed so.	

Hindrances/Definitions

1. **Evading the Issue, Red Herring:** If one has been accused of wrongdoing, diverting attention to an issue irrelevant to the one at hand.

2. **Poisoning the Well:** Creating a prejudicial atmosphere against the opposition, making it difficult for the opponent to be received fairly.

3. **Ad hominem Fallacy:** Criticizing the person making an argument, not the argument itself.

4. **Fallacy of False Dilemma, Either/Or Fallacy:** Intentionally restricting the number of alternatives, thereby omitting relevant alternatives from consideration.

5. **Ad populum, Bandwagon Fallacy:** An appeal to the popularity of the claim as a reason for accepting the claim.

6. **Emotional Appeals:** Making irrelevant emotional appeals to accept a claim, since emotion often influences people more effectively than logical reasoning.