What You Will Learn to Do

Solve a problem using the seven-step problem-solving process

Linked Core Abilities

- Communicate using verbal, nonverbal, visual and written techniques
- Apply critical thinking techniques

Skills and Knowledge You Will Gain Along the Way

- Describe the seven-step problem-solving process
- Describe the decision-making process
- Describe behaviors that contribute to, or block efforts to solve a group problem
Introduction

As defined in previous JROTC lessons in this chapter, leadership is the process of influencing others by providing purpose, direction and motivation, while improving the organization and operating to accomplish the mission. Purpose gives subordinates a reason why they should do different things, sometimes under stressful circumstances. Direction shows what must be done. Through motivation, leaders give subordinates the will and drive to do accomplish everything they are capable of, in order to accomplish a mission.

Leadership Framework

Remember, the fundamentals of BE, KNOW, and DO? They are deeply embedded throughout the leadership framework. The top of this framework shows the four BE, KNOW, and DO categories. They are values, attributes, skills, and actions. The bottom lists the dimensions of leadership, grouped under the four categories. The dimensions consist of the seven values and 15 subcategories under attributes, skills, and actions. Leadership begins at the top, with leader character. When you are the leader, leadership begins with your character. Remember, to lead others, you must ensure your own house is in order. The leadership framework is a tool that allows you to consider leadership as a whole. But, remember, the leadership dimensions involve interrelated components. This framework serves as a guide to help you put your duties, followers, and unit into perspective.

Be, Know, Do

BE a leader of character. Embrace the values and demonstrate the leader attributes. Study and practice so you gain skills to KNOW your job. Then act. DO what is right to achieve excellence.

Approaches to Decision Making and Problem Solving

A leader is expected to get the job done. In doing so, he or she must learn to plan and analyze; identify and solve problems (or potential problems); make decisions; and set realistic and attainable goals for the unit. These thinking and creative leadership requirements are necessary for setting direction – providing vision, purpose, and goal definition. These leadership skills are crucial for developing a disciplined, cohesive and effective organization.

Decision making and problem solving are basic ingredients of leadership. More than anything else, the ability to make sound, timely decisions separates a leader from a non-leader. It is the responsibility of leaders to make high-quality decisions that are accepted and executed in a timely fashion.
Leaders must reason under the most critical conditions and decide quickly what action to take. If they delay or avoid making decisions, it may create hesitancy, loss of confidence, and confusion within the unit. It may also cause tasks to fail. Because leaders frequently face unexpected circumstances, flexibility is critical. Leaders must react promptly to each situation, and when circumstances dictate, be able to change plans appropriately. Remember, prompt reaction builds confidence in your team.

Today, business and military leaders alike use decision-making and problem-solving processes. There are several different decision-making and problem-solving approaches (or models). The most common model is the seven-step problem-solving and decision-making process.

**Seven-step Problem-solving Process**

![Seven-step Problem-solving Process](courtesy of Army JROTC)

Begin by addressing problem solving and decision making with a logical thought process. This will help assure that you do not neglect key factors that may influence your decision. Remember to apply a smart decision-making process in all leadership situations. The seven-step problem-solving process is an excellent tool to guide you in solving problems and making those sound and timely decisions. The seven steps are as follows:

**Step 1: Identify the Problem**

All leadership problems, whether they involve a work-related situation or a counseling session, are exploratory in nature. In other words, leaders do not always identify the correct cause of a problem or develop the best plan. In fact, two of the most common errors leaders make are identifying the wrong problem and the wrong causes.
That’s why learning to identify the REAL problems is so important. Learn to seek only accurate information that leads to the real causes of a problem. To ensure information accuracy, question its validity. In other words, leaders must use accurate information, use their best judgment, and make educated assumptions about the causes of a problem. They then must consider the courses of action to achieve success.

**Step 2: Gather Information**

Gather all available information that pertains to, or might influence the situation (identified problem). Gather this information from sources, including every level of command and applicable outside agencies and sources.

Because time can be extremely limited when decision making, the gather step is the only step leaders may omit. This is so they can quickly think through the remaining steps.

**Step 3: Develop Courses of Action**

Develop appropriate courses of action. Keep an open mind throughout this step and be prepared to anticipate change. During this step, be willing to make changes if needed.

Prepare for all possible situations and scenarios, or “what ifs.” The laws of probability are strongly in favor of surprise. Develop courses of actions to counteract events that might hinder accomplishment of your mission. Consider conducting a brainstorming session. Brainstorming is a creative technique that encourages people to suggest as many solutions to a problem as possible. Generally, you want to have at least two or three possible courses of action—more if the situation dictates and time permits.

**Step 4: Analyze and Compare Courses of Action**

Now, determine the most appropriate course of action to solve the problem. Do this by developing a list of advantages and disadvantages for each possible course of action. Then objectively and logically analyze the advantages and disadvantages against each other.

Up to this point in the problem-solving and decision-making process, leaders should have involved subordinates to research the problem, gather information, and develop and analyze the various courses of action. Subordinates are more likely to support a plan or decision if they took part in its development. This is the place for non-judgment of ideas and encouragement of subordinates to really analyze and compare courses of action. The best idea will come forward and allow you to make a decision as a leader and as a team. This technique will pay off in terms of increased interest, higher morale, and improved team efficiency.

**Step 5: Make a Decision**

After you have carefully analyzed the possible courses of action, consider your intuitions and emotions. The decision-making process is not a purely objective formula. The human mind does not work that way, especially under stress. Your intuition is that
aspect of your mind that tells you what “feels” right or wrong. Your intuition flows from your instincts and experience.

However, never make the mistake of making decisions guided totally by emotions or intuitions and immediately doing what “feels” right. Follow the problem-solving process as rationally and objectively as possible. Try to identify a “best” course of action that is logical and likely to succeed and that also “feels” right in terms of your intuition, values, and character. Finally, make your decision, make a plan, and take action.

Built within the problem solving-process is the decision-making process! It is essential for coming to team agreement on an issue or situation.

**Step 6: Make a Plan**

Make a plan that includes who completes specific tasks, and when, where, why and how those tasks are to be completed. Be as specific as time permits and do not leave out vital information. Specify the what, when, where, how and why for all personnel and/or elements under your authority! Finally, include **contingencies** in your plan to address possible unexpected situations or actions. Develop these contingencies based on the assumptions made when you identified the problem and gathered available information.

As you did when developing the courses of action, be prepared to anticipate change. The ability to make appropriate changes in decisions and plans requires flexibility of mind, which is a crucial trait of a good problem solver, decision maker, and planner.

**Step 7: Implement the Plan**

After the decision and plan are made, act! Put your plan into action and then evaluate it to ensure desired results are achieved. Evaluation is often a neglected step in the decision-making process.

**Three Steps of Decision Making**

Before you actually make and implement the plan or solution to a problem, you must first work through the decision-making process. This is outlined in the above in **Step 5: Make a Decision** of the Seven Step Problem Solving Model. The three steps of decision making are as follows:

**Step 1: Understand the Problem**

- Review the issue again.
- Write down what you know.
• Look for key phases.
• Find the important information.
• Tell it in your own words.
• Tell what you’re trying to find.

**Step 2: Selecting Strategies**

• Make a model – involve the senses.
• Make an organized list or table.
• Look for a pattern – find relationships.
• Guess (or conjecture) and test.
• Make an organized drawing or sketch.
• Work Backwards – start with the consequences.
• Role-play – become an active player.
• Solve a simpler matter first – try simulations.
• Use estimation.

**Step 3: Looking Back – Checking the Answer**

• Does the answer make sense?
• Is it reasonable?
• Can the issue be generalized?
• Is there a pattern?
• Are there other similar situations?

**Approaches to the Planning Process**

Planning serves as the foundation to all other functions. There is an old saying that has proven itself time and time again: “If you fail to plan, you plan to fail; plan your work, then work your plan.”

Planning is also the basis for the problem-solving and decision-making process. That’s why good leaders spend many hours planning the activities of their organization, carefully considering their unit’s missions and objectives.
Every activity requires some degree of planning, along with at least one person to do the planning. To get you started, consider following the four-step planning process.

**Planning Process Model**

When planning, leaders visualize, consider and examine all factors involved in accomplishing a mission. Planning is not an easy process. The first approach to planning consists of four basic steps that can help leaders focus on essential information when planning an activity.

1. Define the objective
2. Study the current situation
3. List and examine possible courses of action
4. Select the course of action that will best help to achieve the objective

Simply stated, there are two primary purposes of planning: selecting an objective and deciding on how to accomplish it. In the four-step planning process, step one addresses the first purpose, while the remaining steps show how you can use planning to reach your objective.

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**Approach to the Planning Process**

*The Problem: Connie’s work/drill conflict.*

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work/miss drill</td>
<td>Find someone to cover work/attend drill</td>
<td>Drill first/work later</td>
</tr>
<tr>
<td><strong>Positive consequences</strong></td>
<td><strong>Positive consequences</strong></td>
<td><strong>Positive consequences</strong></td>
</tr>
<tr>
<td><strong>Negative consequences</strong></td>
<td><strong>Negative consequences</strong></td>
<td><strong>Negative consequences</strong></td>
</tr>
</tbody>
</table>

*Do I need more information?*

*My decision*

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Courtesy of Army JROTC
Step 1: Define the Objective

In this step, leaders begin to define or break down their primary objective by determining the various tasks, conditions, and standards are necessary to complete it.

Defining the objective sounds easy, because everybody knows what they “want to do.” If you are in business, you might say, “I want to make a profit.” That is a good objective, but there is more to it than that. How much profit do you want to make? When do you want to make it?

There is more to setting an objective than stating what you want (or would like). Be specific. Ensure subordinates have a clear understanding of the objective so that everyone works to accomplish the same thing.

Defining the objective so that it indicates what action is required is the first part of clearly identifying the “task.” Everyone involved must know exactly what he or she must do to accomplish the objective. Additionally, use words that describe the action that must be done, for example, to “sell” so many items, “complete” so many forms, or “build” a bridge.

Next, identify any “conditions” that describe the circumstances under which you must perform the objective. What if you were a member of a junior band and the group wanted to meet 95 percent of the requirements (standard) necessary to become senior-band members (task). The circumstances or conditions are those factors that you must plan for to ensure task accomplishment, such as obtaining sheet music, collecting the correct mix of instruments, and rehearsing.

Finally, state the objective in a way that makes it measurable. If an objective does not have a measurable standard, how will you know when you have accomplished it? Think back to the objective of “making a profit.” When have you achieved this objective? Is it when you make $1, $50, or $100? State your objective in measurable terms, so you know when you have reached that objective.

Defining the objective is a critical step. Without a well-defined objective, it is difficult to complete the remaining steps of the planning process. After you are satisfied with the objective, proceed to the next step.

Step 2: Study the Current Situation

Study the situation. Look at what you have to work with to accomplish the objective. How much time do you have? How many people will help you? What kind of supplies do you require? What other resources are available to help you?
Next, identify any barriers or obstacles that may stand between you and your goal. Some of these barriers may be a lack of time, people, supplies, and/or other resources.

As you can see, studying the current situation involves a systematic process of defining tasks and arranging resources with respect to mission accomplishment. You should consider five factors when performing this step – effective use of time; identification of subtasks, people, and resources; and setting priorities.

- **Time**
  Time is an important factor. You must consider time when you plan events, meet deadlines, and set goals. Then you must make plans and execute tasks according to an established time schedule. You must also ensure that your team members can complete all of the tasks within the specified time frame.

- **Tasks**
  Identify all the tasks and subtasks your team must complete to accomplish the objective. Be specific. Develop detailed lists to record them and set measurable standards for each task and subtask.

- **People**
  Tentatively match specific people to carry out each task/subtask. Base your selection on what each task/subtask requires versus the capabilities of your team members, and on how many people (work hours) you need to accomplish the objective.

- **Set Priorities**
  You will always have some tasks that are more important, or must be started, before others. In these situations, plan a “to-do” list in terms of priority for every task and subtask identified. Determine which ones your team must do first, second, and so on, until you have included everything necessary to carry out the plan. Establish priorities in categories (priority A, priority B, priority C, etc.) for each item on the “to-do” list. Do the A priorities first, then the Bs, the Cs, and so on.

- **Resources**
  Identify all resources needed to complete the objective. Determine what is and what is not available. Set aside what is on hand for later use and make arrangements to obtain the items you need but don’t have. While completing the task, periodically check the status of your resources and follow up on the availability of items that you are still trying to obtain.
Steps 3 and 4: Examining and Selecting the Best Courses of Action

You must now list all of the different ways you can think of to accomplish the objective and decide on the best course of action. First, list all the different courses of action; then eliminate all that can’t be accomplished within the given resource constraints (such as time, knowledge, material, or people).

Finally, choose between the remaining viable courses of action. The most common method is to list the advantages and disadvantages of each course of action separately, then choose the one that is most advantageous. Often, however, there is no single best solution. That’s when the decision requires a tradeoff analysis. A tradeoff analysis begins by defining a set of selection criteria and assigning a numeric value to each one according to its level of importance. Each course of action is then compared with the selection criteria and assigned matching values. The assigned values are summed and each course of action given a separate weight.

The best course of action is the one with the highest or lowest weighted value, depending on the selection criteria. For example, if you’re buying a car and need to choose between vehicles of approximately the same cost, you could make a list of features you consider important. Assign each feature a priority, 1 (low); 2 (medium); and 3 (high); then match features to assign each vehicle a weighted value. Finally choose the car with the highest value corresponding to the vehicle with the most features you feel are important.
The Quarterbacks of Life Stepping Stone Four: Decide and Plan

Another option for making decisions is presented through the Quarterbacks of Life (QBOL) Stepping Stones to Success model. Stepping Stone Four: Decide and Plan is a process that can help you meet a team or personal goal.

Quarterbacks of Life “Decide and Plan” Decision-making Process Toward Meeting a Goal – Team or Personal!

Decide

Suppose your goal is to bicycle across the United States from California to Washington, DC in 100 days or less. In order to make some decisions, consider the following types of questions.

- What could keep me from achieving my goal (Success Stoppers-dangers-risks-etc.)?
- What can I do to increase my chances of reaching my goal?
- What resources (information, skills, materials, equipment) do I need to reach my goal?
- Who can help me secure the help I will need to achieve my goal?
- What things do I need to do (make a list, share it with others, and add to it)?
- When will I begin my goal (start date)? When will I complete my goal (end date)?
- Where will I work on my goal? Specify the location(s).
Plan

Use the information from the decide phase to create your plan and consider the following:

- Sequence the steps you will take from start to finish (goal attainment).
- Provide the necessary details to implement each step.
- Provide start and completion dates for each step.
- Review your plan. Is it doable, observable, measurable, helpful and risk tolerable?
Group Project Case Study

Jack Wilson, Cindy Spencer, Craig Summers, Alicia Benson, Jacob Walker, and Abdul Al-Kahtani are assigned to do a group project for their class in U.S. history. They are required to meet outside of class to identify a significant historical document in U.S. history, other than the U.S. Constitution or Declaration of Independence. The students must work together to research and report on the events that led to the creation of the document. The report is to be 10 to 15 typed pages. They are also required to make a 30-minute, creative presentation to the class that communicates their findings. They have six weeks to conduct the research, write the paper, and prepare their in-class presentation.

Jack and Cindy are designated as the team leaders. Their responsibility is to organize the team, assign roles and responsibilities, and assure the assignment is done well and completed on time. The project grade accounts for 30 percent of the course grade. Half of the grade is based on individual contribution and the other half is a team grade awarded to each team member. As team leaders, Jack and Cindy can earn up to 10 extra credit points on the project depending on how well the team performs.

The team met for the first time in class on the day the assignment was given. Jack made a quick list of what needed to be done and was eager to make assignments. Cindy wanted to talk with the group to develop a list of assignments together. Craig announced his disdain for history and suggested that all he cared to study was math and science. Alicia sat silently, drew pictures on a piece of paper, and said nothing the entire meeting. Jacob noted that he was an avid student of history and offered several examples of U.S. historical documents that the team could research. Abdul voiced his doubts about Jacob’s knowledge and expertise and questioned how much historical data would be available for the documents Jacob suggested. After 15 minutes of talking, the team made no progress in determining a course of action. All they could decide was that they would need to meet again someday after school to figure out what to do. But they could not agree on a time or place to meet. They considered six different dates and times, but at least one person had a conflict with every time suggested.

Cindy and Jack walked to their next class together. “I’m worried about this, Jack,” she said. “This team is a mess. We don’t agree on anything. Craig doesn’t even want to do this. Alicia just sits there. And Jacob and Abdul don’t exactly get along. We can’t even schedule a meeting together. How are we going to put all this together?”

Jack and Cindy decided they would meet together to layout some possible solutions to the challenges they faced on the project. During their meeting they made a list of problems to address:

1. Find an agreeable time and place to meet as a team
2. Agree on a U.S. historical document for their project
3. Assign roles for the project
4. Set deadlines for what will be due when
5. Put together a project plan

Jack and Cindy looked at their list. “This is a good start, Cindy,” Jack noted, “but I think we need more detail.”
“I think you’re right, Jack,” Cindy added. “So what do you think we should do to fill in the blanks in our plan?”

“Why don’t we try the seven-step problem-solving method we talked about in JROTC?” Jack suggested.

“Sounds reasonable,” Cindy said. “We may as well try to do it instead of just talking about it. What were those steps again?”

Jack and Cindy looked back over their notes of the problem-solving steps.

1. Identify the problem
2. Identify facts and assumptions
3. Generate alternatives
4. Analyze alternatives
5. Compare alternatives
6. Make and execute your decision
7. Assess the results

Put yourself in the place of Jack and Cindy. As with most problems, there are multiple dimensions to this problem. Based on what you know of their situation, identify what you think are the three most important dimensions of the problem, and work through the seven-step problem-solving process. Here are some facts you can assume:

Jack Wilson is a JROTC student who knows Cindy Spencer and has worked well with her on past projects. He is a good student and an active Cadet in the JROTC program.

Cindy Spencer is also a JROTC student. She is also a good student, who is active in student government and plays on the school soccer team.

Craig Summers is an exceptionally bright person who loves math and science, but is not interested in English and history. He is cooperative, but “tells it like it is.”

Alicia Benson is a quiet individual, who no one knows very well. She is artistic and keeps to herself. Although she does not say much, she will voice her opinion when you ask.

Jacob Walker is a talker who always has an opinion about any given topic. He is very active in the social scene at school. Although he projects an image of having it all together, no one really knows how well he does in school. He is there all the time and talks a good deal, but the people around him have the feeling he is “all talk and no action.”

Abdul Al-Kahtani is a new student in the school, whose parents have recently moved to the United States from Saudi Arabia. He is very bright and speaks English well, but he seems to have trouble understanding when people are joking and when they are serious. He likes the United States and works very hard to get along with people, but it is obvious that Jacob rubs him the wrong way.
Conclusion

Successful leaders are energetic. They exert a great deal of effort to communicate effectively, solve problems, make decisions, set goals, plan, execute plans, and supervise/evaluate. These are a leader's directional (or thinking) and implementing skills. As a leader, you cannot expect positive results from your subordinates unless you work equally hard at solving problems, making plans, and putting plans and decisions into action. Successful leaders also work hard at accomplishing their missions and objectives, while maintaining the highest possible standards of performance. In your professional and leadership development, strive to exercise the same degree of effort and excellence.

In the following lesson, you will learn how to lead meetings. This lesson will give you the skills to take control of a meeting and get the most out of available time and people.

Lesson Check-up

1. What is the greatest benefit to using a problem-solving process?

2. Describe a problem you encountered as JROTC Cadet. Was it a team situation that allowed you, or another person, to use a problem-solving approach toward meeting a goal or solution? Explain how the seven-step problem-solving process was addressed.

3. Explain how the decision-making process impacted problem solving.

4. Explain behaviors that can disrupt your ability to solve a problem.