

**OTS 412
LESSON PLAN**

Problem Solving

4 periods

Introduction

During this seminar, you will discuss problem solving techniques and logical analysis. Time will be given to work in groups to come up with solutions to given problems followed by a discussion.

Problem Solving

Every task that is assigned requires some degree of problem solving. This calls for the leader to employ material and human resources in the most efficient manner to get the job done. This becomes difficult when you become responsible for someone else's time and resources.

Because you are working with cadets, there is a great deal of trust (like it or not) automatically placed on you to make the right decisions based on their welfare. They will look to you as role models, much like their teachers, and to some extent, their parents. There are also expectations from the parent or guardian that their child is in responsible and safe hands. Being able to decipher a problem and come to a quick and logical solution will allow you to live up to those lofty standards.

Logical Analysis

This method is the best process if there is sufficient time available for consideration of all the options. It helps reduce a complex thought process to a simple format. There is no guess work, ideas flow into one another. There are seven steps that the leader must follow in order to formulate a good plan of action.

These steps are used when you are being given a task to to complete and you have cadets under your control for the completion of the task. These seven steps include:

1. Determine the intent of the leader who assigns the task

If you are being given direction from above, be sure of what you are being asked to do. A good supervisor will always take the time to explain the task a second time so do not be afraid of asking for more clarification. Once you leave, you must understand your job otherwise you will be planning for the wrong thing.

2. What is the Problem?

Once you understand what you are being asked to do, you must consider those problems that you might run into during the task. Sometimes well-meaning leaders are misled by assuming they know the problem. There might be dozens of little problems that must be overcome or only a few major ones. It is the leader's responsibility to resolve the problems as part of accomplishing the task.

3. Determine the Critical Factor:

Among the problems identified previously, there is usually one problem upon which all the others depend. This is called the critical factor. The leader must identify the critical factor if the task is to get done. To arrive at the critical factor, a suggested analytical method is to answer the following questions:

- What causes the problem?
- What are the resources available to deal with it?
- What are the capabilities of personnel in dealing with it?
- What are the factors of time and space?
- What are the required conditions for the solution?
- What is the simplest, easiest, and fastest way of bringing those conditions about?

The answers to these questions, will establish the critical factor, which provides the focal point of further planning. The answers will reveal the central, most stubborn features of the obstacle that confronts the leader.

4. Develop Alternative Solutions:

What are the several ways in which the critical factor can be over-come? An advantage to the development of alternatives is that if the plan does not work because of an unforeseen occurrence, the leader is prepared with a second course of action. The leader can probably implement the next most promising alternative without disrupting the whole operation.

5. Compare Alternative Solutions:

Which is the best? Each solution that you come up with must now be compared to decide which one will be the most suitable. Some questions that you can ask yourself about each alternative are as follows:

Which solution is the simplest?

Which solution is the safest?

Which is the most flexible?

Which solution uses available resources in an economical manner?

Which is most likely to resolve the critical factor and all other problems?

6. Determine which Solution you Will Adopt:

From the alternative solutions and your comparison of each, choose the one you will implement. This decision becomes the plan that must be communicated to the cadets, an appropriate leadership approach adopted and leadership principles applied.

7. Implement the Solution:

Implement the plan and get the task done. If the plan that you chose to implement does not work out despite your best efforts you can still fall back on one of the other plans that you developed earlier.

Activity / Discussion

Now that candidates have an idea of how logical analysis works, it's time to put it into action. Below are lists of situations in which the solutions are many. Have the candidates work in evenly divided groups and provide each problem to 2 different groups (hopefully you have an even number of groups). Have the candidates assess the situation and use the steps in logical analysis to come up with solutions to the problem. They should come up with at least one alternate solution. They should be given at least 1 period to sit and decide on a course of action, depending on the time left in the session.

Once the instructor is satisfied that all groups have come to a conclusion, have them present their solutions by explaining the steps in logical analysis and how they were applied.

What you may find is that the 2 groups solving the same problem have come to a solution very different from one another. This stresses the fact that problem solving is rarely a black-or-white process in which a solution is right or wrong.

Open up the discussion to see if anyone else has any other solutions.

NOTE TO INSTRUCTOR – Be on your toes and ready to interject if you see that a group has not followed the steps properly. Throw a wrinkle into their planning by asking a thought-provoking question or changing the situation halfway through the process. You will find out quickly whether they have thought things through correctly.

Problems:

- a) **The CO has decided that your Annual Inspection is going to be conducted at the local marina. However, the only suitable area is in a 100-car parking lot. You are expecting 80-100 visitors at the event (8 VIP's – one who requires wheelchair access). There is limited meter parking on the adjacent street (approx. 15 spots), but you cannot reserve them. Your city does have a limited public bus service on weekends. Arrange the parking situation that will best accommodate all of your guests.**
- b) **You and a brand new officer are taking a group of cadets sailing on a Saturday morning. You have key access to the boats, but not the boathouse. As you prepare the cadets and boats for the day, you realize that the motor on the safety boat is inoperable. Parents are not expecting their children to be ready for pick up until late in the afternoon. How can you make the day productive?**

- c) You have a group of 20 cadets at a weeklong camp, which is approximately 1 hour's walk to civilization. You are awaiting the CO who is picking up the food for dinner. He is already a ½ hour late, and the cadets are becoming restless. You have tried him on his cell phone, but there is no service. What should you do?**

- d) You and another officer have volunteered to take 8 cadets to a seamanship competition 100 km away from your corps building. Before you leave in the morning, you receive a phone call from the other officer stating that he is too sick to go, and that you are on your own. The CO is unattainable for the entire day. Get the cadets to the competition.**

Conclusion

Solving problems, big or small, is one of the most common responsibilities of a leader, but one that is often neglected, or not given due consideration. Taking the time to come up with a clear solution will save you headaches later on when things go array.