

PROBLEM SOLVING TECHNIQUES



AGENDA

- Starter
- Problems, Problems; Solutions, Solutions
- What We Know
- Do It Again, Sam
- Conclusion
- Student Assessment

Objectives

Students will identify problems that they face.

Students will identify strategies that can be used for problem solving.

Students will apply the steps of the decision making process to problem solving.

Materials Needed

- One copy of the “Problem Solving” activity sheet for each group (Part III)

Starter (3 minutes)

Tell students the following story:

Marta comes into school one morning and sees her best friend, Ali, talking with Marta's boyfriend, Rodrigo. Neither Rodrigo nor Ali sees Marta as she gets closer. They are smiling and whispering to each other. When they see Marta, they stop talking, move away from each other, and look embarrassed. They all say hello to each other, and Ali and Marta go to class together. Rodrigo heads for his class in another room. Marta asks Ali what they were talking about. Ali says, "Oh...nothing much. Just homework." Marta feels uncomfortable about the scene she just saw but doesn't know what to do.

Ask students to describe Marta's problem. Ask if Ali and Rodrigo also have a problem.

After students have had a chance to express their ideas, explain that they will develop problem solving skills in this module.

Part I Problems, Problems; Solutions, Solutions (10 minutes)

Purpose: Students identify problems that they face.

1. Students define "problem."

Ask students what it means to have a problem. Have students discuss their definition of "problem." Ensure that they focus on defining "problem" instead of offering examples.

Elicit comments such as the following from students:

- A problem is a question that needs to be answered.
- A problem is a situation that is puzzling or creates difficulty.

2. Students identify problems that they experience in their lives.

Point out to students that everyone experiences problems. Elicit from students examples of problems that they have had. Encourage them to think of examples from all areas of their lives. In order to prompt discussion, suggest the following examples:

- Problems with their bosses
- Problems with co-workers
- Problems in their family
- Problems with school assignments or teachers
- Problems with classmates or friends

Have a volunteer write students' answers in a place where everyone can see.

3. Students classify problems.

Explain to students that in this module they are going to be addressing problem solving at school, at work, and at home. Ask them to classify each of the problems listed into one of those categories. Have a category of "other" for problems that do not fit within the school, home, or work classifications.

Write the categories for each of the problems listed.

Part II What We Know (15 minutes)

Purpose: Students identify techniques they have learned that can be used for problem solving.

1. Students understand what it means to solve a problem.

Ask students what it means to solve a problem. Lead students to understand that solving a problem means resolving some kind of confusion or difficulty and having a clear course of action. Point out to students that sometimes the solution will be the "lesser of two evils."

2. Students recognize the strategies they have used to solve problems.

Ask several students to identify problems from the list on the board that they have solved. Guide students to verbally outline the process they used to solve the problem. Write key words or phrases from their explanations where everyone can see. Have students compare the processes that they used to solve their problems. Make a list of the words and phrases that suggest there is a process for problem solving. Additionally, mention skills that students have developed that will help them to solve problems well, including communication skills, decision making skills, goal setting skills, and so on.

Explain that students will be using and combining some of these skills to refine their problem solving skills.

3. Students recognize that they have the ability to solve problems.

Refer students to the list of problems that they have brainstormed and ask if any of these problems cannot be solved. Lead students to recognize that they have the ability to solve or alleviate the impact of their problems.

Tell students that problem solving is similar to decision making. When they are problem solving, they are searching for the best option, or solution, to their problem (as in decision making).

Part III Do It Again, Sam (20 minutes)

Purpose: Students apply the decision making process to problem solving.

1. Students review the steps of the decision making process.

Ask students to recall the steps of the decision making process that they learned in *Module Two: Decision Making Skills*. They are:

1. Define the issue.
2. Gather information.
3. Develop alternatives.
4. Analyze consequences.
5. Make the decision.
6. Consider feedback and evaluation.

2. Students apply the steps of the decision making process to problem solving.

Divide the class into groups of four or five students. Assign each group one character from the starter (Marta, Ali, or Rodrigo). Give each group one copy of the “Problem Solving” activity sheet and a character to focus on. Reread the starter to the class.

Give students the following instructions:

- Your task is to solve your character’s problem.
- Put your character’s name on the activity line.
- Use the six-step decision making process to find a solution.

If necessary, prompt students by saying, for example, “Does Ali have a problem? If so, what is it? The first step is to define the issue or problem that Ali has.”

Move around the classroom and whisper to the groups assigned Ali and Rodrigo that their characters are planning a surprise party for Marta. As you circulate, remind the groups to follow the steps of the decision making process.

3. Groups present their results to the class.

After students have completed their activity sheets, have each group present its results to the class.

Ask the groups assigned Marta if knowing about the surprise party would have made a difference in how they chose to solve the problem. Ask them how they could have discovered that information.

Have the groups explain the steps they took and the reasons for each. Point out to students that each group chose a slightly different solution. Remind students that there are usually several different solutions to a problem and that one of the steps of the problem solving process is to consider as many options as possible.

Conclusion (2 minutes)

Conclude by asking students to review the steps of the problem solving process. Elicit from students the following **key points** that were taught in this lesson:

- A problem is a question that needs answering or a situation that creates difficulty.
- Everyone has problems and the ability to solve them.
- Problem solving utilizes the techniques and steps of the decision making process.

Student Assessment

1. List the steps to effective problem solving.
2. Create a scenario or short story in which someone demonstrates the steps of the problem solving process.

LESSON EXTENSIONS

Using Quotations

“Problems are not stop signs, they are guidelines.” – Robert Schuller

Have students create signs that represent a problem as a guideline. Ask students to share their signs with the class and explain why they represent guides to problem solving.

Addressing Multiple Learning Styles

Present students with a problem. Ask them to create a KWS chart of what they *know* about the problem (K), what they *want* to know about it (W), and possible *solutions* to it (S).

Have students discuss their KWS charts.

Writing in Your Journal

Have students write about whom they turn to for advice when they have a problem. Have them write a letter to that person asking for advice about a problem they have.

Have students share their letter with a partner and discuss possible solutions to their problem.

Using Technology

Have students create road or concept maps showing the path to solving problems. The maps should show a path from a problem to its solution and give directions that will help others solve problems. Ask students to draw and color the maps.

Have students present their maps on a smartboard.

Homework

Have students read “Dear Abby” or another advice column and bring in the piece they read.

Discuss a few of the questions and the advice that was given. Do students agree with the advice given?

How would they advise the person in each situation?

Additional Resources

Have students read *A Whack on the Side of the Head: How You Can Be More Creative* by Dr. Roger von Oech.

Have students summarize what they have read.

PROBLEM SOLVING BY

GROUP MEMBERS _____

ACTIVITY _____

DECISION MAKING STEPS

COMMENTS

1. Define the issue.
2. Gather information.
3. Develop alternatives.
4. Analyze the consequences.
5. Make the decision.
6. Consider feedback and evaluation.