

Problem Solving



The use of logical steps in problem solving quickly improves the quality and efficiency of any group discussion. Although the actual steps can be described in various ways, most formulas are founded on a traditional, scientific method that includes the following stages:

- Define the problem.
- Collect data about the problem.
- Create a hypothesis about the cause of the problem or how the problem can be solved.
- Test the hypothesis by means of an experiment.

Develop a flexible plan that utilizes logical steps in problem solving is part of the preparation. A synthesis of an effective method, created by Hedley Dimock (1987), is presented at the end of this resource.

Use of the Method

The greatest advantage of using Dimock's suggested steps for problem solving is that it requires groups to separate the *suggesting* solutions from *discussing* them, thus eliminating a step during which many groups get stuck. It is only natural that when one member suggests a solution, other members will reply with an opinion about the suggestion. This stopping and starting slows down the meeting, makes it difficult for all possible solutions to be stated, and tends to put the person

who suggested the solution on the defensive. It does not allow for the various solutions to be compared with one another and to rise or fall on their own merits.

By arguing over suggestions groups may rob themselves of the opportunity to hear additional suggestions. Furthermore, people who are shy or people who think that they must be on the defensive against nay-sayers may be reluctant to make suggestions at all. Focused "suggestion sessions," using methods such as brainstorming, help to eliminate unwanted group discussion.

The technique of brainstorming utilizes the logical steps in problem solving by clearly separating the suggestion of solutions from the discussion of their value. The basic rule for brainstorming is that no one can comment on or in any way belittle the suggestion of another member. The only response to another's suggestion that is allowed is building on it with another idea. This tends to increase the number and variety of suggested solutions, as the threat of having an idea "shot down" by the group is reduced. Much of the value of brainstorming can be achieved by separating step four (the suggesting of solutions) from step five (the discussion and testing of solutions) in the regular use of logical steps in problem solving.

Logical Steps in Problem Solving

Problem Solving Steps	Useful Member Roles	Blocks	Possible Methods
1. Defining the problem	Orienting Clarifying Defining problem	Ambiguity Different perceptions Generalizations	Problem census Small groups Needs analysis
2. Checking involvement	Testing Supporting Revealing interest	Silence "Yessing"	Going around the group Ranking priorities
3. Collecting information and diagnosis	Giving information Orienting Summarizing	Moving to next step Stepping too quickly Lack of focus	Force-field analysis Advance preparation Data collection
4. Suggesting solutions	Seeking opinions Giving opinions Coordinating	Starting to evaluate ideas Limited participation Minority not heard	Brainstorming Small groups

5. Evaluating alternatives	Giving opinions Testing feasibility Mediating-harmonizing Coordinating	Emotional distortions Conflicts Steam rolling Majority voting Loss of focus	Guided discussion Going around Force -field analysis Role playing Risk technique
6. Decision making and gaining commitment	Giving opinions Coordinating Mediating-harmonizing Testing for consensus	Majority voting Polarizing Going along with group (no commitment)	Risk technique Provisional try Total-group discussion Protecting minority opinions
7. Planning implementation	Giving information Testing feasibility Initiating	Lack of involvement Generalizations Vague responsibility	Implementation teams Small groups Committees
8. Evaluating/ replanning	Coordinating Giving opinions Giving information	Expectations not clear Implementation Mechanics not clear	Work groups Committee reports Data Collection