Why?

7. A redefinition of the problem

8. Possible solutions: Strengths & Weakness:

9. Alternatives for solutions: Pros & Cons:

10. Our decision:

11. We will organize the solution this way:

12. Assignments:
   People: Job: Deadline:

13. Did we solve the problem we needed to solve?

Start Again!
Implementation Includes:
- Delegating Responsibility
- Kinds and numbers of committees
- Committee Chairman
- Project Approval (administration, others)
- Special tasks

Step 6. Evaluation

Evaluation is a necessary and very important step in the process. Means of evaluation include:

1. Discussion
2. Face to face
3. Suggestion Boxes
4. Checklist Evaluation

After the evaluations are in, the group needs to ask itself, did we achieve our goal? Did we solve the problem? If not, back to Step 2.

Step 7. Housekeeping

1. Filing reports
2. Checking funds
3. Thank you notes
4. Collecting loose ends

An easy way to recall the seven steps of the Problem Solving Process is by remembering this sentence: Brave People And Dudley Doorites Encounter Happiness. The first letter of each word in the sentence is the key to remembering each step of the process: B for Boundaries, P for Problem, A for Alternatives, D for Discussion, E for Evaluation, and H for Housekeeping.

My code of life and conduct is simply this: work hard; play to the allowable limit; disregard equally the good and bad opinion of others; never do a friend a dirty trick... never grow indignant over anything... live the moment to the utmost of its possibilities... and be satisfied with life always, but never with oneself.

---George Jean Nathan
Your Problem-Solving Behavior

1. When a problem comes up in a discussion, I try to make sure it is thoroughly explored until everyone understands what the problem is.

Never 1 2 3 4 5 6 7 Always

2. I ask why the problem exists and what the causes are.

Never 1 2 3 4 5 6 7 Always

3. I tend to accept the first solution that is proposed by a group member.

Never 1 2 3 4 5 6 7 Always

4. When a group decides which solution to adopt and implement, I make certain it is clear what the decision is, who should carry it out, and when it should be carried out.

Never 1 2 3 4 5 6 7 Always

5. I do not take the time to really study or define the problem the group is working on.

Never 1 2 3 4 5 6 7 Always

6. I tend to propose answers without really having thought through the problem and its causes carefully.

Never 1 2 3 4 5 6 7 Always

7. I make sure that the group discusses the pros and cons of several different solutions to a problem.

Never 1 2 3 4 5 6 7 Always

8. I tend to let decisions remain vague in terms of what they are and who will carry them out.

Never 1 2 3 4 5 6 7 Always

9. I push for definite follow-ups on how decisions reached at earlier meetings have worked in practice.

Never 1 2 3 4 5 6 7 Always

10. I know if the results of the group's work are worth the effort.

Never 1 2 3 4 5 6 7 Always
Problem Solving Techniques

Brainstorming

Brainstorming is a useful technique for generating ideas. Properly used brainstorming can stimulate creative solutions which other more systematic logical procedures will not. There are a few rules which must be followed to make the process effective.

1. The objective is to generate many ideas quickly. The emphasis is on quantity not quality.
2. Anything goes! Any idea is accepted and written on a chalkboard or large chart. Even duplications of previous ideas are listed.
3. No discussion or evaluation of ideas is permitted during the Generating Process. "No idea is a dumb idea."
4. No speeches are permitted. No one may talk more than ten seconds at a time.
5. When generation of ideas begins to slow down, the leader should call for "just a few more". Keep this up as long as ideas are being suggested.

Ten steps to successful brainstorming:
1. Assemble panel of participants
2. Limit the problem
3. Create a non-critical atmosphere
4. Record every contribution
5. Obtain a quantity of ideas rapidly
6. Urge participants to improve ideas
7. Maintain control of participants
8. Questions to stimulate thinking
9. Decide on merits of ideas
10. Acknowledge work of participants

Value Rating

This is another method of eliminating alternatives. Group members select the best ideas by distributing 100 points among those which they think are the best. To force some choices, restrictions may be placed on the distribution of the points. For example: 1) Each person must place at least 35 (or 20 or some other number) of points on one idea, or 2) each person may distribute his points only among 10 (or 5 or some other number) ideas. The ideas which are valued low can be discarded. Using this method, the group can narrow their alternatives.
Step 3. Developing Alternatives

After the group arrives at a sound and solid definition of the problem it is facing, it is necessary to research and develop possible alternatives. This step involves the use of a variety of group techniques, i.e. brainstorming and buzz groups; however, this step is not confined to these techniques. There are a number of means to arrive at many alternatives.

A. Group Processes
   1. Brainstorming
   2. Value Rating
   3. Buzz Groups
   4. Role Playing
   5. Idea Writing

B. Research Methods
   1. Public Poll
   2. Questionnaires
   3. Information Files
   4. Committee Work
   5. Expert Panel Discussion
   6. Published Materials
   7. Experience
   8. Qualified Expert
   9. Public Meeting

Step 4. Discussion and Debate

It is now time to discuss and debate (hence the title) the list of alternatives. It is important to keep in mind these things when involved in discussion and debate.

1. If possible, keep things in a positive light
2. Be aware that the problem may have changed
3. Keep in mind the capabilities of the group
4. Make sure alternatives are physically practical
5. Try to keep everyone happy; do not alienate
6. Don’t lose sight of your goal. Refer to the problem statement to keep everyone on track.

Step 5. Decision and Implementation

After the group has heard the discussion of the alternatives, it must choose a solution by:
   Consensus, if possible
   Group support
   Majority Decision
This may be democratic, but it is not effective leadership. Group decisions made by voting are win/lose situations and are detrimental to group productivity. A decision that leaves a little more than half of the group's members winners also leaves a disgruntled minority of losers. This leads to tension in the group, and decision making becomes competitive within the group.

Win/lose situations interfere with listening, decrease sensitivity to other members, and destroy creativity.

A better approach to the voting problem is a win/win situation, a technique called consensus. The group members, after a thorough discussion, agree on one or more alternatives. An individual member may not see the final decision as his or her favorite, but is a good one that he or she will be able to live with and support.
Problem-Solving and Decision-Making Processes

General Method
Define the problem
List the alternative solutions
List costs/benefits of each alternative
List possible solutions
Decide upon a course of action
After the decision is enacted, determine its true effects
Reevaluate the situation
Learn to live with decisions

St. Ignatius Method
Determine choices
List, in priority, the advantages and disadvantages of each choice
Give each advantage a positive numerical value and each disadvantage a negative one
Add up the values of each choice
Make decisions based on the total numerical values

Personal Decisions
Ask yourself: What is the worst possible result? Is it worth the risk?
Remember: You must be responsible for your own decisions and their consequences
No decision is in fact a decision—it is a decision not to decide and thus maintain the status quo
Ask yourself: Am I functioning on a logical or emotional level?
How do the other people involved view the problem? How will they view my decision?
Who around me will lend us support? Who will lead in blocking me? Why?
How will I use the support? How will I overcome the blockage?

Researching
What do I need to know to make a decision?
How can I find out?
What will be valid research?
Study fallacious thinking and statements and avoid them in your own research

Scientific Method
Observe
Develop a hypothesis
Test the hypothesis
Make a statement of the truth or knowledge gained
Retest on the basis of new information

Brainstorming Techniques
List on the blackboard as fast as possible as many alternative solutions as you can think of
Go back and develop priorities among the alternatives
Make a decision
Situation-Target-Path Problem Solving Model

It is possible to divide the process into specific steps.

One method for problem solving:

1. Define the problem first - as a question. Be certain that each member understands what the problem really is, and we must agree that this is a problem. Sometimes fuzzy agreement solves the wrong problem. Spend time discussing the problem and agree on a definition of what it really is.

   The problem as we see it:

2. The ideal world without this problem is:

3. Symptoms of the problem:

   Barriers to reaching our goal:

4. Factors which contribute to the problem:

   Factors which could relieve the effects of the problem:

5. Possible causes:

   Possible sources of the problem:

6. What new problems do we face now?
8. Avoid conflict reducing techniques such as majority vote, averages, coin flips and bargaining. When a dissenting member finally agrees, don’t feel that he must be rewarded by having his own way at some later point.

9. Differences of opinion are natural and are to be expected. Seek them out and try to involve everyone in the decision process. Disagreements can help the group’s decision because with a wide range of information and opinions, there is a greater chance that the group will hit upon more adequate solutions.

10. Ask yourself questions when necessary.

11. Keep all comments positive. A negative comment on an idea can reduce its effectiveness later if a group settles upon it for a decision.

12. Call on members who are likely to have creative alternative solutions when you feel the group is considering only traditional alternatives (especially those they’re not likely to fully support in the end!).

13. Call for a recess when you feel there’s a need for a “break in the action” to give members a chance to talk informally with one another.

14. Alternate speakers for an issue when consensus is impossible within the time available, or when the issue doesn’t require total membership involvement or support. Always be sure to give everyone the opportunity to ask questions before voting (if that becomes necessary due to time).

*Man’s mind stretched to a new idea never goes back to its original dimensions.*

Oliver W. Holmes
Types of Information:
1. Facts-What is known and can be documented. This can often be turned into statistical information.
2. Opinions and interests-What the various groups of people in your school think about something. This kind of information will help you to know how much support or controversy you can expect.
3. Ideas-Students, teachers, even other schools may have an idea that will help solve the problem.

Ways to Gather Information:
1. Research-at libraries, other schools, and through CADA & NASC.
2. Surveys/Questionnaires-of students, faculty, and community.
3. Interviews-of students, faculty, administrators, and board members.

Determine Solutions

Everyone is a genius at least once a year; a real genius has his original ideas closer together.  
--G.C. Lichens

Surveys, questionnaires, and interviews are just some of the methods a council can use to generate solutions to problems. A committee or student council meeting is an appropriate place to discuss a problem and suggest possible solutions. The Group Interaction Method, which incorporates brainstorming, is an excellent method to use. (See Meeting Skills section of the notebook.)

Decide

Set out from any point. They are all alike. They all lead to a point of departure.  
--Antonio Porchia

Once possible decisions have been determined the group must choose what will be acted upon or recommended to the administration. See the Meeting Skills section for ideas on reaching consensus and deciding (i.e. spend a buck, vote by majority, etc.)

Plan and Act

Simply finding the best solution will not solve a problem. A plan must be strategically developed and implemented. The solution becomes the goal and the council must now organize to carry out their plan.

Leadership is the ability to do, not the ability to state.  
--Paul von Rinngelheim
You're on the right track
You can do it!
That's fine!
You're in high gear.

That's a winner
We can always depend on you.
Put yours on the bulletin board!
We can do a lot with that idea.
Blocks to Creative Problem Solving

- Barriers in perception; badmouthing others' ideas
- Lack of self-confidence, information, energy, effort, humor, positive outlook, rewards for innovative behavior
- Old ways of doing things (force of habit); overlooking the obvious
- Conformity, clock pressure, close-mindedness, cutting down ideas
- Killer statements, keeping a closed mind
- Self-imposed boundaries, fear of being wrong or laughed at, self-complacency subservience to authority.

The true leader will try to avoid using these killer phrases:

- A swell idea, but... Somebody would have suggested it before if it were any good.
- We’ve never done it that way Too modern
- It won’t work Too old fashioned.
- It’s not in the budget Let’s discuss it at some other time.
- Too expensive. You don’t understand our problem.
- We’ve tried that before. Why start anything now?
- Not ready for it yet. We’re too big for that.
- Good idea, but our school is different The new teachers won’t use it.
- All right in theory, but can you put it in practice? There are better ways than that.
- Too academic. It’s against school policy.
- Too hard to administer. We have too many projects now.
- Too much paperwork. What you are really saying is...
- It’s not good enough. Has anyone else ever tried it?
- Let’s not step on their toes. It has been the same for twenty years, so it must be good.
Ways to Deal with a Problem

• When a crisis develops, take a few minutes to collect your thoughts.

• Don't waste time and energy trying to blame someone for the problem.

• Define the problem in writing as a question.

• Evaluate the seriousness of the problem. Decide if it is serious enough to change your priorities.

• Inform others about the problem.

• Inform members of the problem.

• Gather information relating to the problem.

• Ask members to suggest solutions.

• Review common past experience with similar problems.

• Decide what kind of action will lessen the problem.

• Work out an organized plan of action to deal with the crisis.

• Assign members to handle details of the plan.

• Evaluate the results of action.

• Record the solution for future reference. Add suggestions.
Let me add to that. It needs more study.
I just know it won’t work. Let’s be practical.
Who do you think you are? Let’s form a committee.
You haven’t considered... Let’s shelve it for the time being.

**Instead he/she will use these igniter phrases:**

I agree! I like that!
I looked at this last night and really liked it! That would be interesting to try.
That’s good! Good for you!
That’s really neat! Things are beginning to pop!
Great idea! I never thought of that.
Let’s get right on it! Let’s go!
I appreciate what you have done. Congratulations!
See, you can do it! I couldn’t do that well myself.
Good job! Keep going!
Let’s start a new trend! That’s a great idea.
I made a mistake! I’m sorry You’re beautiful!
Great! There’s been some good thinking.
I know it will work. Very good!
We can do a lot with that idea. I’m glad you brought that up.
You’re doing better! Do that again.
Go ahead...try it. That’s an interesting idea.
I like the way you... What good workers we are.
We’re going to try something different today. Good work!
That’s interesting. I’m very pleased with what you’ve done.

---

Problem Solving
Positive Problem Solving

Don't waste your time worrying about things you cannot do anything about.
Don't try to fix things that are impossible. Concentrate on the possibilities.

--Charles Knight

Problem solving is a process that can be different for different people. However, most problem solving experts recognize the following five steps as the basic steps in problem solving:

- Identify the problem
- Gather Information
- Determine Solutions
- Decide
- Plan and Act

Identify the Problem

The following questions may aid a council in identifying real problems:

1. Is the problem a problem or the symptom of a problem?
2. Can you separate the people involved from the problem?
3. Is the problem solvable?
4. Is the problem within the council jurisdiction or is it best brought to the attention of another group such as the administration?
5. Is the problem solvable with a single event or by many events over a longer period of time?
6. Have you limited your options by jumping to a solution/conclusion too readily?

Gather Information

Knowledge is of two kinds. We know a subject ourselves or we know where we can find information upon it.

--Samuel Johnson

Effective information gathering can have the following benefits:

1. A greater scope of solutions
2. A higher quality solution based on meaningful criteria
3. A solution that appears more credible and professionally obtained.
4. A solution that is supported by various populations within the school.

The information you gather will help to determine your solution and support the implementation of your solution.
Consensus

Consensus is the total agreement of members within a group. It's a decision process for making full use of available resources and for resolving conflict creatively. Reaching consensus is important on deciding on major issues which have a great effect on the world as a whole. The point of trying to reach consensus is to make a definite decision which all the group members can support. They must accept the decision, work towards accomplishing the goals required by the decision, and not criticize the decision either publicly or privately.

Consensus may be difficult to reach, as the final decision will not agree with everyone's original ideas or opinions. Reaching consensus challenges the individual most, for the individual must relinquish any claim to the ideas he has presented to the group; an idea belongs to the group as soon as it is presented. It is the group's idea and may be evaluated and critiqued by the group. Consensus is always worth the time and effort, especially in dealing with major issues. Without consensus, members can be alienated and reduce the effectiveness of the group.

When trying to reach consensus, it is important that all group members agree to support and participate in this method of decision making. The clarity, and creativity while at the same time dealing firmly with behavior which is counter-productive to the goal of consensus. Some ways to keep it all together during such discussions:

1. Find areas of agreement, narrow the field of disagreement to the most basic elements then clarify and analyze what is being said.

2. List problems in the order of their difficulty, then begin the discussion with the less controversial. This will release tensions and defuse potential aggressiveness.

3. Brainstorming when you want a creative explosion of ideas in an atmosphere of absolute permissiveness.

4. To keep a discussion on the topic and stifle repetition, post (on a chalkboard or banner paper) all points made on a given topic (giving only positive key reasons).

5. Ask for questions from the membership when you sense their confusion or frustration resulting from a poor or overlong presentation.

6. Encourage members to present their position as lucidly and as logically as possible, but also listen to the other members' reactions and consider them carefully before they press their own point.

7. Ensure the members know that when the discussion reaches a stalemate there is no need for someone to win and someone to lose. Instead, have them look for the next most acceptable alternative for all parties.
Negotiation

or

Another way to reach consensus

Getting people to agree to a solution to a problem which they see very differently can be a difficult and sensitive task. When people can see themselves as colleagues in search of solutions, instead of enemies with something to win or lose, true negotiation with everyone winning is possible.

The next time you have problems which require convincing and persuading, consider the following negotiation principles:

1. Participants are problem solvers.
2. The goal is a wise solution reached efficiently and amicably.
3. Separate the people from the problem.
4. Go easy on the people and hard on the problem.
5. Focus on the problem and interests that people have, not the positions that people take
6. Develop lots of possible solutions.
7. Save the final decision for later; it is a separate step.
8. Use sensible criteria for judging the proposed solutions and get other to do the same.
9. Try to get people to decide based on criteria and values, not on will and power.
10. Reason and be open to reasons; yield to principles, not pressure; be open to compromise.

*From Getting to Yes: Negotiating Agreement Without Giving In, by Roger Fisher and William Ury*
Problem Solving as Opposed to Decision Making

**Problem Solving**—A progress of resolving a discrepancy between an actual state of affairs and a desired or ideal state of affairs.

**Decision Making**—A critical step of problem solving involving the selection of one alternative to be implemented toward resolving the problem.

**Problem-Solving Process**
- **Identify** the actual state of affairs
- **Define** the desired state of affairs
- **Gather** information
- **Determine** criteria for basing decision
- **Generate** alternatives
- **Decide** (decision-making part of process) on alternatives
- **Plan** how to put your solution into action
- **Implement** your solution
- **Evaluate** the results

The problem-solving process works equally well for individuals or groups. Groups encounter many situations more complicated than those we can deal with ourselves.

**Group Problem Solving**

- **Objective** problem solving works on the stated job that brought the group together.
- **Group process** problem solving develops the agreements, rules, and controls required for the group to proceed in accomplishing the task.
- **Individual** growth and personal meaning problem solving requires the individual, through working through the experiences in the group, to assimilate present experiences with past experiences. The success he or she has in processing these experiences is called individual growth, the development of individual capacity, or personality.
- **Subjective** Problem Solving works on the hidden agenda, clique relationships, and other emotional relationships that function within a group.

**Decision Making**

As we mentioned earlier, decision making is a critical part of the problem-solving process. In a group, individuals need to feel that their voice has been heard so that they can "buy" into the group's decision.

The method you use to reach a decision for or with your group will determine the support for that decision later on, whether it was a good one or a bad one.

Let's consider a possible decision-making situation. At the end of the year the photography club finds it has an unexpected surplus of $500. The club is split between holding an end-of-the-year picnic or investing the money in needed equipment for the dark room. The club president believes in the "democratic" tradition and puts the matter to a majority vote to resolve the conflict.
Problem Solving Process Outline

Step 1. Group Boundaries
A group must understand a few basic facts before it can even begin to deal with specific problems.

What is the group’s central purpose? Why was it formed in the first place?
What resources are available to the group?
- X people
- X money
- X supplies
- X knowledge

What limits are there on the group’s action?
- X laws, rules, regulations
- X limits the group imposes on itself (i.e. by the answers to the first two questions)

Keeping these things in mind makes the rest of the problem solving process much more effective.

Step 2. Defining the Problems
When the group initially becomes aware of a problem, time should be taken to analyze and define it.

Is there an underlying cause for the problem?
Remember...you can only eliminate problems by dealing with their causes
The rest of the problem solving process is not very effective when it is used to solve a poorly understood problem
There may be many layers of problems and underlying causes

Problem as first perceived—
we never have any money
Because—
we don’t have enough money making projects
Because—
we can’t get the sponsor to O.K. the projects we think of
Because—
the projects aren’t well planned before they are presented for an O.K.
Solution—
develop a system for planning projects more completely before presentation to the advisor

Remember to analyze the problem before you try to solve it! A written statement of the problem should be made and posted where everyone in the group can see it!
Buzz Group

By arranging members into small groups, you get people who feel one way mixed in with people who hold different opinions. In mixed groups members will sharpen each others’ wits simply because they are no longer with their little clique of friends who all think alike. So be sure to arrange the group so that it is made up of people with different ideas and values. This has a good chance of becoming a productive group, and it will give the membership some variety, some new acquaintances.

Buzz groups have proved to be very effective for:
1. Converting goals into ideas for action
2. Making decisions
3. Evaluating a meeting or event
4. Nominating officers
5. Selecting activities
6. Interacting with speakers

Role Playing

Role playing is useful to gain insights on other people’s views. One use of role playing is to have each member think of himself in the position of an administrator or teacher or coach, and then generate ideas from their perspective. Creativity is the key to role playing. Any number of roles can be used. The emphasis is on the role rather than on the situation. Members can experiment with different ways of behaving without the risks involved in an actual incident or situation. They can then select the approaches to problems which seem to be most successful.

Panel Discussion

A panel of from three to eight participants is selected to carry on a discussion in front of, and partially for the benefit of, an audience. Their method is a sort of structured conversation, usually, though not necessarily, led by a designated chairman. The audience may be allowed to ask questions or enter into the discussion while it is under way or after the panel has finished.

Idea Writing

Idea writing is a method which allows everyone to talk at once. By breaking the group into smaller groups of 7 or 6, each member writes an idea at the top of a piece of paper on a given problem, e.g. what is an easy money making project? Talking is not allowed. The papers are then redistributed among the group and the next person either comments on the idea at the top of the page or comes up with a new one. When the sheets are full, they are collected and made available to everyone for discussion.