

CREATIVE PROBLEM SOLVING

Instructor's Workbook



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Developed for:



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CREATIVE PROBLEM SOLVING

Preface:

Welcome to one in a series of individualized Optimist International Skills Development Modules. Our goal is to help you, our members, learn and apply practical skills to deal with the opportunities and issues in your life. This series of modules is not designed to deal with "theoretical" issues, but rather to provide a practical "hands on" approach.

Each of these modules is to be used, written in and applied. You can learn skills on your own, or join with others in a collaborative learning venture. Each module contains an instructor's guide in addition to a separate participant's guide which can be duplicated as often as necessary to supply the needs of your Club members.

Future modules will deal with individual as well as group-oriented skills, all of which are designed to help individual Optimists enhance their personal leadership ability in any chosen field of activity, i.e., employment, home, school, and volunteer activities. This is a significant development for our organization in its service to its own members, and we hope that participants will provide feedback about each module to the International Headquarters (c/o Leadership Development). In this way, we can maintain our focus on providing meaningful leadership training to Districts, Clubs and individuals throughout our Optimist organization.

We truly hope you enjoy the journey to self-improvement.

Optimist International
CREATIVE PROBLEM SOLVING
Workshop Outline

Introductions

Purpose

A. What is creative problem solving?

1. Thoughts about creative people, knowledge and the creative problem solving process.
2. Definition of creative problem solving.
3. Creative problem solving exercise.

B. Why don't we think creatively more often?

1. What are the barriers that get in our way?
2. What are mental blocks? - Ten hurdles to overcome.

C. How can we be more creative?

1. Ten tips for promoting creative thinking.

D. What is the creative problem solving process?

1. Creative thinking.
2. Define the problem.
3. Assess the problem.
4. Brainstorm ideas.
5. Evaluate ideas.
6. Implement the decision.
7. Evaluate the results.

E. What are some other specific creative problem solving tools and techniques?

1. Ten questions to encourage ideas.
2. Brainstorming.
3. Multivoting.
4. Mindmapping.

F. Application of learning:

1. What are the three greatest problems/opportunities your Club is currently facing? (i.e. how do you motivate your Club members?)

Optimist International
CREATIVE PROBLEM SOLVING
Workshop Outline

Instructor's Manual

Preface (Background information for the instructor to read before delivering the Creative Problem Solving workshop).

1. Empowering People:

- People are capable of doing much more than leaders typically allow them to do.
- Empowerment does not mean “letting people do whatever they want.”
- Empowerment is the process for allowing them to make the intelligent decisions they are qualified to make.
- Empowering people frees up leaders to perform the often neglected tasks of planning and building for the future.
- It is good for the Club member because it helps them grow and build self-respect.
- It is good for the community and for the whole Optimist International organization because it helps create a stronger overall Club to serve their current and future needs.

2. Adult Learning Principles:

- Adults are motivated to learn when they understand why they need to know something.
- Adults enter learning situations with a great deal of life experience and knowledge.
- Adults become ready to learn particular things as they have a need to know these things.
- Adults learn best when the experience is task-problem or life-centered.
- Adults are primarily internally motivated.

Introduction *(The instructor introduces himself/herself and welcomes the workshop participants.)*

Purpose *(The instructor then tells the purpose of the workshop.)*

The purpose of the workshop is to develop the awareness and skills necessary to solve problems creatively.

Learning Objectives *(The instructor reviews the learning objectives. It is important that the participants know what to expect from the training.)*

By the end of this Creative Problem Solving Workshop you should be able to:

1. Define creative problem solving.
2. Be familiar with the 10 most common mental blocks and be aware of some of the blocks to your creative thinking process.
3. Explore ways you can be more creative.
4. Know the steps to the creative problem solving process.
5. Be familiar with these three creative problem solving techniques:
 - a. Brainstorming
 - b. Mind Mapping
 - c. Multivoting
6. Be able to apply any of these tools to solve a problem your Club is currently facing or a problem you may be facing at work or at home.

A. What is creative problem solving? *(The instructor asks the participants this question to engage them in the discussion. He/she may record the participant's comments on flipchart or make a mental note of them.)*

1. The instructor may share some of the following concepts about creative problem solving as they relate to the participant's remarks. (The instructor invites the participants to take notes in their workbooks [page 4], if they choose.)

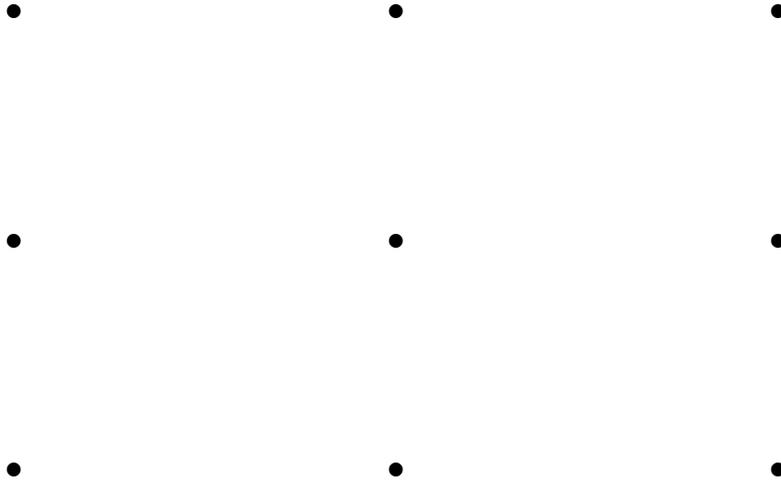
- The creative person wants to know about all kinds of things. Because he/she never knows when these ideas might come together to form new ideas.
- Knowledge is the stuff from which new ideas are made. Yet, knowledge alone won't make a creative person or solve a problem. The real key to creative problem solving is what you do with the knowledge.
- Creative problem solving requires an attitude that allows you to search for ideas and use your knowledge and experience.
- One may use seemingly crazy, foolish and impractical ideas as bridges to practical ideas. One might "break the rules", so to speak and search for ideas in unusual places.
- By changing one's perspective and playing with our knowledge, one can make the ordinary extraordinary and the unusual commonplace.
- Adapting a famous quote from a former Nobel prize winner, Albert Szent-Gyorgi:

"Creative problem solving is looking at the same thing as everyone else and thinking something different."

2. The instructor tells the participants they are now going to have an opportunity to apply some creative thinking to solve a problem. He/she directs the participants to turn to the page with nine dots [page 5] in their workbooks.

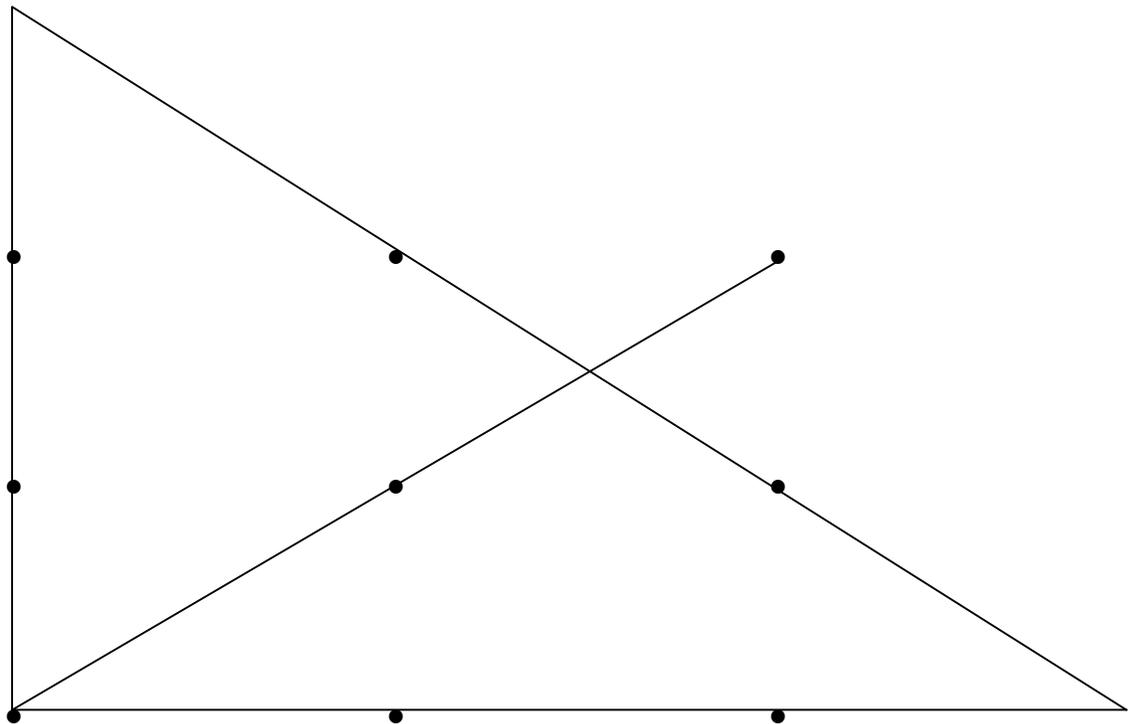
**The instructor then reads the following instructions, word for word, to the participants:*

“Connect all nine dots with four (4) straight continuous lines without your pen (or pencil) leaving the paper.”



** The instructor gives the participants five (5) minutes to complete the exercise. He/she may draw the nine dots in the same pattern up on a flipchart. Then, the instructor asks if anyone thinks they have gotten the answer and would they like to draw it on the flipchart.”*

** One answer to this problem is:*



** The instructor asks who got this answer. Then, asks participants what happened? He/she proceeds to lead a discussion about the barriers to creative problem solving.*

- Narrow thinking keeps people within the imaginary boundaries of the “box” and stuck dealing with the same old problems.
- Creative thinking goes outside the imaginary boundaries of the “box” and discovers innovative ways of solving problems.
- Are you faced with a lingering problem that you could solve by thinking and going outside your “box”?

B. Why don't we think creatively more often?

1. What are the barriers that get in our way?

(The instructor asks the participants these questions to engage them in the discussion. He/she or one of the participants may record the participant's comments on a flipchart.)

As a follow-up question to further stir their thinking, the instructor may ask the participants to think of things they do automatically, without really thinking.

The instructor may share some of the following barriers to creative thinking as they relate to the participant's remarks. (The instructor invites the participants to take notes in their workbooks if they choose on page 6.)

- Thinking of different, creative ways to do things takes too much time. We just have to get the job done.
- The way we have always done things seems to work just fine, why change?
- We don't need to be creative for most of what we do.
 - For instance, we don't need to be creative when we are waiting in line at the Post Office, or driving our car, or riding up the elevator or doing routine chores.
- When it comes to dealing with the day-to-day busy aspects of our lives, we are creatures of habit. We get dressed, read the paper, take out the trash, wash the dishes, clean the house the same way.

- Having a routine helps us do many of the things we need to do without having to really think about them.
- We have not been taught to be creative. Many of us have been taught to think that the best ideas are in someone else's head.

2. What are mental blocks?

Definition:

Mental blocks are reasons (attitudes) why we don't "think something different." *The instructor shares with participants the following reasons why we often don't think something different.* Most of us have certain attitudes that keep us thinking the same way (blocks our thinking). There are 10 main mental blocks.

The instructor may direct the participants to page 7 for note taking.

MENTAL BLOCKS

1. The Right Answer.

Throughout our school years we have all been taught to look for the "right answer." What happens is that if we think there is only one "right" answer then we will stop looking as soon as we find it. Our creative thinking process stops with that one "right answer." When we allow ourselves to use our imagination we are able to discover many answers.

For example: Tests in schools that are multiple choice and true/false questions look for only one right answer.

2. That's Not Logical.

We have been taught throughout life to look at things as right or wrong, as works or does not work or as black or white. That type of logic implies there is a definite right and wrong answer. We often do not look at the gray because it is not logical. That is really a shame because looking at the gray can be playful, funny and creative.

When we think only of what is right or wrong or black or white our focus may be so narrow we miss out on some good ideas.

For example: What do a cat and a refrigerator have in common? Logical thinking would say NOTHING. However, creative thinking may see a number of things a cat and refrigerator have in common: they both have a place to put fish, they both have tails, they both come in a variety of colors, they both purr, they both have a lifetime of about fifteen years, etc.

3. Follow the Rules.

We are under a lot of pressure to “follow the rules.” We are taught this from the time we are children.

Often, challenging the rules is good creative thinking strategy. Also, if we never challenge the rules, we may get locked into one approach or method without seeing other approaches that may also work.

Here is an important reason why rules should be challenged:

1. We make rules based on reasons that make a lot of sense.
2. We follow these rules.
3. Time passes, and things change.
4. The original reasons for the generation of these rules may no longer exist, but because the rules are still in place, we continue to follow them.

For example: Every night at the dinner table, Jane sits next to her mother. From the time Jane was a baby and began to eat food she was seated next to her mother so that it was convenient for her mother to feed her. Well, Jane is a young adult who no longer needs her mother’s assistance, however, her assigned seat remains next to her mother.

4. Be Practical.

We so often focus on what is practical, on what we already know works. When people look at new ideas, they tend to be critical and focus on what is out of the ordinary. Often the comments made are negative, for instance, “that won’t work.” We have been trained to respond to the unusual by saying “that’s not practical, instead of “hey, that sounds like a neat idea.”

For example: Just imagine the creative ideas we would have if we were to look at the way things were and asked “what if”, “what if we did it differently.” “What if we only went to work three days a week and did the rest of the work at home?” “What if we ate dinner for breakfast and breakfast for dinner?”

5. Play is Frivolous.

Ask the question - “When do you get your best ideas? Some people will respond by saying:

“When I have a problem.”

“When something breaks down and I have to fix it.”

“When I have a deadline.”

These are common responses and are quite acceptable to most people. These types of responses indicate we are creative when it is necessary for us to be creative.

There are other times, however, when we are creative. Other people may respond to the same question along these lines:

“When I’m just playing around.”

“When I’m not taking myself too seriously.”

“When I’m doing something else.”

Many people come up with their best ideas when they are playing around.

For example: Play is often seen as something frivolous, an activity for which we don’t have time. It is important that we recognize there are many ways of getting good ideas. Some of the best ideas come when we are playing around with our thoughts.

6. That’s Not My Area.

The type of work people do is becoming more and more specialized. Our focus is becoming more narrow. For instance, the days of an auto mechanic working on all kinds of cars are gone. Auto mechanics typically specialize on one type of car, for instance Japanese cars or BMWs or Fords. Well, with specialization, people begin to think they do not have anything to offer outside their area of specialization.

It is important to realize that very few problems are related to just one area. Most problems are related to many different areas. Just because it is not our area, does not mean we don’t have something to offer.

For example: Think of yourself as an explorer. Wherever you go, there are new ideas waiting for you to discover.

7. Avoid Ambiguity.

Generally, people do not like ambiguous statements or situations because they can be confusing and many cause problems communicating.

For example: When asked directions to the nearest gas station an ambiguous response would be - “Go down the road, over the hill, across the bridge and take a left at the big old maple tree.”

As a result, we have learned to “avoid ambiguity.” There are times when it is important to “avoid ambiguity”, such as when giving out directions, drawing up a contract, making a major purchase. In these

situations, it is important to be clear, precise and specific. Although, at times, it is important to be unambiguous, yet there are other times when it may limit our thinking. There are times when ambiguity can stir our imagination. Ambiguity helps us ask questions like:

- “What’s going on here?”
- “What does this mean?”
- How else could someone view this?”

These are special questions that can be asked when you are looking for new ideas. So, looking at things ambiguously is one way to look for new ideas.

8. Don’t Be Foolish.

We have learned that the best way to get along is to go along with the crowd. We tend to conform so that we do not look foolish. If you don’t conform, you might look like you don’t know what you are doing.

The problem is that when we try to conform with our thinking, we end up thinking like everyone else. Our creativity and imagination gets stifled. We begin to look at an idea in the same way.

For example: To be creative, sometimes we have to take a risk and allow ourselves to look at things differently. Try it, you just may find that people appreciate another viewpoint and your creative idea may help someone out.

9. To Err Is Wrong.

Many people are not comfortable with errors. Our educational system has taught us to look for the “right answers.” From an early age we are taught that right answers are good and incorrect answers are bad. From this we learn to be right as often as possible, to make as few mistakes as possible. In other words, we learn that “to err is wrong.”

The sad part of this line of thinking is that it does not allow us to learn from our mistakes. When we do not allow ourselves to make mistakes we are not allowing ourselves to think creatively. Mistakes are not bad, they are a learning experience. At the very least, we learn what does not work and from there, we very well may learn what does work.

Errors are a sign that you are breaking new ground and are trying new things. Remember, if you do fail you learn what doesn’t work. The failure gives you an opportunity to try a new approach.

For example: The comedian and film director, Woody Allen, once said, “If you are not failing every now and again it’s a sign you’re not trying anything very innovative.”

10. I’m Not Creative

If we see ourselves as not creative, then we will not be creative. People who do not think they are creative never put themselves in a position where they can use their creativity. Because they do not think they are creative, their creativity stays locked away.

For example: A major difference between creative people and lesser creative people is that creative people give themselves a chance to pay attention to their ideas. They allow themselves to play with their small ideas. Even if the idea is small, they know that a small idea may lead to a big breakthrough and they believe they are capable of making it happen.

Adapted from: von Oech, R. (1983). *A Whack on The Side of The Head*.

C. How can we be more creative?

The instructor asks the participants for ways in which we can be more creative. They may write down their thoughts on page 7. The instructor or one of the participants records the participant’s thoughts on the flipchart.

Following the group discussion, the facilitator shares with the participants the following “**golden rules**” of creative thinking.

1. Start small trying to discover new ways to be creative, but start.
2. Give yourself permission to abandon the old, obsolete ways of doing things and to explore new ways.
3. It is not possible to change the way we think about everything. Target specific areas in which you would like to try creative thinking techniques.
4. Understand that creative thinking requires time, but it is worth it!!
5. Remember that creative thinking is both hard work and fun!!!!
6. Focus on what you can reasonably do. Trying to do too many things at once compromises the effort and may take away from the results.
7. Practice creative thinking for today as well as tomorrow.
8. Include other people in the creative thinking process with you. Collaboration fosters creative thinking.
9. Include “new and different” in your creative thinking process as well as “better and more.”
10. Keep innovating.

D. What is the creative problem solving process?

The instructor reviews the seven steps of the creative problem solving process with the participants, stopping to describe and discuss each step and answer any questions. Participants may take notes on page 8.

Step 1: State what appears to be the problem.

The real problem may not surface until facts have been gathered and analyzed. Therefore, start with what you assume to be the problem, that can later be confirmed or corrected.

Step 2: Gather facts, feelings and opinions.

- What happened?
- Where, when and how did it occur?
- What is its' size, scope and severity?
- Who and what is affected?
- Is it likely to happen again?
- Does it need to be corrected?
- Time and expense may require problem solvers to think through what they need, and assign priorities to the more critical elements.

Step 3: Restate the problem.

The facts help make this possible and provide supporting data. The actual problem may, or may not, be the same as stated in Step 1.

Step 4: Identify alternative solutions.

Generate ideas. Do not eliminate any possible solutions until several have been discussed.

Step 5: Evaluate alternatives.

- Which will provide the optimum solution?
- What are the risks?
- Are costs in keeping with the benefits?
- Will the solution create new problems?

Step 6: Implement the decision.

- Who must be involved?
- To what extent?
- How, when and where?
- Who will the decision impact?
- What might go wrong?
- How will results be reported and verified?

Step 7: Evaluate the results.

Test the solution against the desired results.
Make revisions if necessary.

E. What are some other specific creative problem solving tools and techniques?

1. 10 QUESTIONS TO ENCOURAGE IDEAS.

The instructor reviews these questions with the participants, provided in their workbook. The instructor explains these are questions that can be asked to get the thinking process started and to keep it going. Participants will have an opportunity to practice these questions with the following exercises:

1. What if...?
2. How can we improve...?
3. How will the Optimist Member and/or the community benefit?
4. Are we forgetting anything?
5. What's the next step?
6. What can we do better?
7. What do you think about...?
8. What should we add?
9. What should we eliminate?
10. What other ideas do you have...?

2. BRAINSTORMING

The instructor asks the participants the purpose and rules of brainstorming. The instructor asks the participants for the information first, in the event some of them are familiar with brainstorming. It is helpful to the learning process to invite them to share their understanding. To assist in the discussion, the instructor provides the following information as a summary. Participants may refer to page 11.

Purpose of Brainstorming

To generate a large number of ideas in a short period of time.

Rules for Brainstorming

1. The more ideas the better! Everyone thinks freely and adds as many ideas as possible, regardless of how crazy they may seem.
2. No discussion during brainstorming - keep the thoughts coming!
3. No idea is a bad idea - no criticizing, groaning or making fun of other people's ideas.
4. Hitchhike or piggyback on one another's ideas.
5. Display all ideas for everyone to see (recording ideas on a flipchart works best).

Practice Exercise: *The instructor leads the participants through an exercise to practice brainstorming.* If there are more than six participants, break the class into small groups (groups of 4 to 5 participants is preferable).

An Example Question To Work With Might Be:

How do we motivate our local Optimist Club Members?

Following are other brainstorming questions that may be used. Please feel free to make up your own process questions!

- What are the causes of a car failing to start?
- When shopping for a TV, what does one need to look for?
- What are the uses of a paper clip?
- Why do people join Optimist International?
- What does Optimist International have to offer its members?

Note: *Should the instructor be working alone, we encourage you to invite a friend, colleague or family member to join you in the practice exercise. If that is not possible, try to unlock your mental blocks and let your thoughts flow. Let's see how imaginative you can be!*

Utilize the following guidelines to assist in the brainstorming process. Refer participants to page 12.

1. Practice question - How do we motivate our local Optimist Club Members?

Remember, there are no right or wrong answers. Brainstorming is an exploration of thoughts and ideas. It may be helpful for the instructor to periodically re-state the question to keep the process flowing.

2. Clarify understanding.

Once all the ideas have been generated (it may take approximately 5 to 6 minutes), review ideas offered. This is the time participants may ask questions of one another's ideas to clarify their understanding. i.e. "What did you mean by that?"

3. Combine items that are similar and/or eliminate duplicates.

4. Completion

The brainstorming process is completed once the ideas have been offered, discussed and consolidated.

Brainstorming may also be used as a basis to make decisions. We will explore the decision making process using the brainstorming we have just completed within a decision making tool called Multivoting.

3. MULTIVOTING

The instructor reviews the purpose, definition and multivoting steps with the participants. Next, take the participants through an example of the multivoting process. Direct participants to page 13.

Purpose:

To help a group of people make a decision with which they are all comfortable.

Definition:

A way to vote to select the most important or popular items (alternatives) from a list.

Steps:

1. Generate a list of items and number each item. (***You may use your list of brainstorming results.***)
2. If two or more items seem similar, they may be combined. (***However, it is important that the group agrees.***)
3. If necessary, renumber the items.
4. Have each member write down on a sheet of paper, or in their workbook, the numbers of items they feel is the major cause of the problem. (***Allow each participant a number of items equal to at least one-third of the total number of items on the list. For example: 48 item list = 16 choices; 37 item list = 13 choices.***)
5. After all the participants have made their selections and recorded them on notepaper, you may have them share their votes. ***Call out the item numbers, members vote by a show of hands.***
6. Eliminate those items with the fewest votes. If you are working with a small group (5 or fewer) you may only need to eliminate items with 1 or 2 votes. (***If you are working with a medium group (6-15) eliminate items with 3 or fewer votes. If the group is large (more than 15) eliminate items with 4 votes or less.***)
7. Repeat steps 3 through 6 on the list of remaining items. Continue this process until only a few items remain. If a clear favorite does not emerge, have the group discuss the items listed and make a choice. (***Each participant has one vote.***)

Adapted from: Scholtes, Peter R. (1988). The Team Handbook

4. MIND MAPPING

The instructor asks the participants to turn to page 14 in their books. Review the definition and the purpose of mind mapping. The instructor may ask if any participants are familiar with this technique, if so, ask them to share their experience with mind mapping with the group.

Definition:

A visual picture of a group of ideas, concepts or issues.

Purpose:

- Helps us unblock our thinking.
- Enables us to see an entire idea or several ideas on one sheet of paper.
- Helps us to see how ideas relate to one another.
- Allows us to look at things in a new and different way.
- Enables us to look at an idea in depth.

Practice Exercise: Use the following guidelines to assist the participants to learn how to use mind mapping. Have the participants turn to page 14 in their workbooks to see a diagram of a mind map.

Guidelines:

Initial Tumble of Ideas:

- Start with an over-sized blank sheet of paper - a flipchart is ideal.
- Select a single word, phrase or problem statement (focal point) that will serve as a focus for the discussion.
- Print it in the middle of the paper. Enclose it in a box or oval.
- Let a word pop out of your mind that relates to the focus point. Print it anywhere on the paper.
- Underline it and connect the line with the focus point (main phrase or idea).
- Record the next idea and connect it to either the original focus point or the prior thought.
- Continue printing and connecting words as they come into your mind. Don't be afraid to think freely!! *see example below*





Helpful Hints

- *Keep your printing large and easy to read.*



- *Feel free to use symbols and or pictures.*



- *Have some fun using different colors.*



Completed Map

- Look for clusters of similar thoughts associated with the main focus point (key phrase or word). Draw over each of these words with a highlighter pen. Use a different color highlighter with each cluster of words.
- Seeing the ways in which ideas relate to one another gives people a better understanding of the focus issue.

- It is now possible to see the various causes of a problem. You may identify the most important causes and next brainstorm solutions.

Adapted from: McWhinney, W. et'al (1992). Creating Paths of Change.

F. Application of learning:

What are the three greatest problems/opportunities your Club is currently facing?

The instructor starts by asking the participants to individually list what they see as the three greatest problems/opportunities their Club is currently facing? i.e. "What do you motivate your Club members?" Participants may write down their thoughts on page 16.

1. _____
2. _____
3. _____

The instructor then leads participants in answering this question by utilizing the previously discussed problem solving tools.

- **First** - the instructor may start with brainstorming to have participants come up with and prioritize the important issues with which the Club is dealing.
- **Second** - the instructor may use mind mapping to help participants visually illustrate the possible causes and probable solutions.
- **Third** - the instructor may use multivoting to assist participants in selecting a specific solution and course of action to follow.

NOTE: These three tools may be used interchangeably to illustrate the causes and generate possible solutions.