Tips for Innovative Meetings and Events (T.I.M.E.)
Topic: Problem Solving Techniques
Date: March 2003
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U. S. Library of Congress ISSN: 1539-1833

Welcome

Who doesn't have problems these days?? Many meetings are called for the sole purpose of solving problems. Beyond the simple solution of putting people in a room to solve the problem, what other ideas can be used for problem solving. This issue of Tips for Innovative Meetings and Events examines many different problem solving techniques. Brainstorming is top of my mind (the topic is covered with enhancements) but some of these new techniques may be just the twist we need.

I am developing a seminar from this topic, so if that is of interest to you, please email me for further information.

Sue
Sue Tinnish

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Step Up to Problem Solving

Here are the steps in solving problems:

1. Problem Articulation
2. Smash Assumptions
3. Generate Ideas/Solutions
4. Analyze and Choose Solutions

5. Implement

I'll review some strategies and techniques for problem solving in the subsequent sections.

Problem Articulation

Define the problem carefully to make sure you are solving the real problem and to help engage your unconscious and conscious minds to the problem.

Strategies to Help:

1. Ask Why Five Times. To each answer, dig deeper and ask "why" four more times.

2. Use similes or metaphors to define your problem. Roger von Oech loves metaphors and includes several applications in his book A Whack on the Side of the Head:. For example, in response to the question "Define the Meaning of Life", he challenged participants to come up with food-based and non-food based metaphors.

   Here are some of the results:

   Life is like a bagel. It's delicious when it's fresh and warm, but often it's just hard. The hole in the middle is its great mystery and yet it would not be a bagel without it.

   Life is like a maze in which you try to avoid the exit.

   Life is like a room full of open doors that close as you get older.

3. Go outside your industry for a solution. Ask people to pick up the magazine on the third shelf, right hand corner from their local bookstore. Read it and come the meeting prepared to discuss what you read and how it might have application here.

4. Imagine that you are someone else. How would someone else -- like Winston Churchill, Machiavelli, your mother, The Three Stooges, or Mother Teresa -- solve your problem. What assumptions would they have? What special expertise would they add? This will help you fight the Not Invented Here Syndrome.

5. Just DO IT! This technique is fully described in the book The Art of Creative Thinking by Robert W. Olson.
   The DO IT technique is based on the following acronym:
   Define
   Open
   Identify
   Transform

   The DO IT process emphasizes the need to Define problems, Open yourself to many possible solutions, Identify the best solution and then Transform it into

action effectively. Robert Olson offers ten DO IT catalysts. Some of them help in defining the problem. For example:

Mind Focus
Ask why the problem exists. This may lead to a broader statement of the problem. Or try to subdivide the problem into smaller problems. This may lead to a narrower restatement of the problem.

Mind Grip
Write down at least three two-word statements of the problem objective. Select the combination of words which best represents the precise problem you want to solve. Use this to write a new, more optimal and effective restatement of the problem.

Mind Stretch
List the goals, objectives and/or criteria which the solution of the problem is to satisfy. (Think of the obstacles which must be overcome.) Then stretch each goal, objective or criterion and write down any ideas which are stimulated.

Mind Strengthen
List the negative aspects of your idea. Be vicious! Try to positive the negatives. Then modify the solution to reduce the negative aspects.

Smashing Assumptions

We are born without pre-conceived ideas about the world, but with experience, we come to recognize patterns and categorize the things and situations we see. (I shared similar ideas in last month's issue on Diversity.) The benefit is that these assumptions allow us to react rapidly to situations.

In problem solving, assumptions set limits on the problem and provide a framework. Assumptions often reflect desired values, values that should be maintained throughout the solution. Assumptions simplify the problem and make it more manageable by providing fewer things to consider and solve. A problem without assumptions is usually too general to handle.

Many assumptions are "obvious" and we normally would not think to question them. Yet that is exactly why we so often get blocked when we try to solve a difficult problem. The disadvantage is that our thinking becomes limited by our assumptions.

In problem solving, many assumptions will be hidden and unrecognized unless a deliberate effort is made to identify them. Often it is the unrecognized assumption that prevents a good solution from bubbling up. Before smashing assumptions, we need to identify the assumptions and determine which are self-imposed and which offer benefits or are appropriate.

Assumptions lurk in the following areas: Time, Money, Cooperation (Assumption of cooperation or opposition). Physics (Does the problem appear to be impossible), Law (Do existing laws create interference) , Energy (Do we have the energy and is it worth it?) , Cost/Benefit, (How much is it worth to find the solution?) Information (Is the

information available correct?), Culture (Is the solution limited because of attitudes in the culture or practices of recent history?)

With assumptions identified, it may be appropriate to Smash these assumptions individually or in combination.

Or Dr Robert Polster provides a technique called Escape Thinking. The approach is mainly based on methods and ideas described by Edward De Bono in his book Serious Creativity: Using the Power of Lateral Thinking to Create New Ideas.

The idea is to release our assumptions to see if this reveals new possibilities. To break us away from our assumptions, De Bono suggests the creation of provocative statements that suggest new directions for our thinking. Your may want to state the assumption in a negative form. For example, De Bono says that to develop a new concept related to restaurants, one might list assumptions about restaurants like: Restaurants serve food; and You pay the bill when you leave. Using the Escape Technique, we then transform these assumptions into provocations. "Restaurants serve food" becomes "Restaurants do NOT serve food." We then use this as a starting point for looking at restaurants in a new way.

Getting the Juices Flowing

Brainstorming is the "tool" that is top of my mind when I think of problem solving.

The basics of brainstorming:

1. No idea is a bad idea. (Wildness is welcomed.)
2. Generate as many ideas as you can, as quickly as you can without evaluating them.
3. Combination and improvement are desirable.

For more information on brainstorming, I have written a short white paper. Just email me (stinnish@ameritech.net) for a copy of the document. Or click here Brainstorming White Paper. You may also be interested in the June 2002 issue of Tips for Innovative Meetings and Events on the topic of Creativity.

But sometimes, a group just doesn't seem ready for brainstorming. Creativity doesn't always work on a schedule.

To help people get into the spirit of brainstorming (or other problem solving techniques), it can be worthwhile to start with a simple activity to get everyone's creative juices flowing.

For example,

- Take 2-3 minutes to find as many uses for a common object -- like a paper clip or baking soda. Work in small groups and see which team can arrive at the greatest number of ancillary uses.

- Ask a far-fetched question. "What would the world be like if men had babies?" "What if animals became more intelligent than people?" "What if the price of a barrel of fresh water and a barrel of petroleum were the same?" "What if

highway "blacktop" came in "redtop" or "bluetop" depending on the speed limit? From Roger von Oech's A Whack on the Side of the Head: How You...

- Take a piece of common sense and find ways to disagree with it. Use familiar adages and take a contrarian position to phrases like:
    - Patience is a virtue
    - Fight fire with fire
    - Look before you leap
    - You can't teach an old dog new tricks

Enhanced Brainstorming

After the initial wave of ideas, break into small groups and have them generate a quota of additional ideas. People will generate more new ideas when working in a group versus individually.

Do one last round titled "Stupid and Ridiculous Ideas". Encourage everyone to think of the most stupid and most ridiculous ideas. After assembling the ideas (which usually results in new energy and laughter), the group can often see ways to transform the ideas from stupid and ridiculous into plausible ideas

Brainwriting: Divide a paper into 21 squares (3 across and 7 down). Have one more sheet than person in the meeting. Each person writes 3 ideas in each of the boxes and then swaps that sheet of paper for another sheet of paper. The group will see each others ideas without specific knowledge of whose idea are whose.

Use a prop to get people thinking. Like Thinkpak: A Brainstorming Card Deck Or Creative Whack Pack

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Strategies for Problem Solving

Here are some quick strategies for Idea and Solution Generation

1. Ask for the Second Right Answer

    We are conditioned to seek one and only one answer. Push for another solution.

2. Ask Dumb Questions

    For example, Why have we always done it that way? Why do I have to sign this form?

3. State the Problem as a Negative

    When trying to state the get at the root cause of a problem it may be useful to state what the problem is not.

4. Use Random Words (or Pictures)
   Start your brainstorming with a random word. Select a random word, an article from a magazine, or some other random object and think about how the random thing applies to your situation.

5. What If Compass

   >From Charles "Chic" Thompson's book, What a Great Idea!

   What if I...

   Stretch it... Make it float... Fill it up...
   Winterize it... Magnetize it... Moisten it...
   Sharpen it... Empty it... Melt It...
   Freeze it... Make it simple... Darken it...
   Force It... Make it funny... Sour it...
   Build it up... Shrink it... Dry it...

6. Change Perspectives

   Think of solutions from the perspective of your customer. Or your customer's customer. For internal problems, focus on how someone 2 levels up in management will see the problem and how someone 2 levels lower will view the problem.

Want more?? Here are 101 Creative Problem Solving Techniques: for you to draw upon for your next meeting.

Problem Analysis

Time for some serious Problem Solving and Analytical Techniques.

1. Decision Trees - Quantitative Analysis of Decision's Impact
2. SWOT Analysis - Analyzing your Strengths, Weaknesses, Opportunities and Threats
3. Critical Path Analysis - Planning and Scheduling Complex Tasks
4. Attribute Listing - Consider each component's attributes individually
5. Storyboards - Using moveable storyboards to analyze and organize thoughts
6. Unconscious Dwelling - Allowing your unconscious to work also

Decision Trees

Decision trees are excellent tools for making financial or numerically based decisions where a lot of complex information needs to be taken into account. Laying out solutions in a format like a family tree, they provide an effective structure in which alternative decisions and the implications of taking those decisions can be written down and evaluated. Typically, decision trees also include values (the numeric benefit of each alternative), the costs and often an associated probability.

SWOT Analysis - Strengths, Weaknesses, Opportunities, Threats

SWOT Analysis is an effective method of identifying your Strengths and Weaknesses, and to examine the Opportunities and Threats you face. Using this tool you assess your Strengths - What are your advantages? What do you do well?

Weaknesses- What could be improved? What is done badly? What should be avoided?

Assess your strengths and weaknesses from an internal and external perspective.

Then you can assess your Opportunities - Where is the low lying fruit? What is good in your market or industry now? What are the interesting trends?

Finally, you can assess your Threats What obstacles do you face? What is your competition doing? Is changing technology threatening your position?

Critical Path Analysis

Critical Path Analysis calculates the minimum length of time in which the project can be completed, and which activities should be prioritized to complete by that date. Critical Paths are an effective basis for scheduling and monitoring of progress.

The essential concept behind Critical Path Analysis is that some plan activities are dependent on other activities being completed first. These dependent activities need to be completed in a sequence, with each activity being more-or-less completed before the next activity can begin. Dependent activities are also called 'sequential' activities.

Other activities are not dependent on the completion of any other tasks, or may be done at any time before or after a particular stage is reached. These are non-dependent or 'parallel' tasks.

The final outcome to Critical Path Analysis is a PERT or Gantt chart.

Attribute Listing

Attribute listing is a great technique for ensuring all possible aspects of a problem have been examined. Attribute listing is breaking the problem down into smaller and smaller components and seeing what you discover when you do.

For example, assume you were a pen manufacturer and you wanted to improve your pens. By listing all the components in a pen - casing, ink, clip holder, cap, and weight - and the attributes of each one, you can develop a list of ideas to improve each one.

Attribute listing is a very useful technique for quality improvement of complicated products, procedures for services. It is a good technique to use in conjunction with brainstorming.

Attribute listing is attributed to Michael Morgan "Creating Workforce Innovation"

Storyboarding

Storyboarding can be likened to taking your thoughts and the thoughts of others and spreading them out on a wall as you work on a project or solve a problem.

When you put ideas up on Storyboards, you begin to see interconnections, how one

idea relates to another, and how all the pieces come together. To implement a Storyboard solution you can use a cork board or similar surface to allow pinning up index cards. Or you can pass out post it notes to people and have them place them on a wall. Software programs are also available.

Unconscious Problem Solving

This method relies on the unconscious mind to be continually processing the various sensory inputs stored in short-term and long-term memory. Some of the greatest thinkers were great relaxers. Einstein was a daydreamer and spent much of his relaxation time sailing on a lake. Ralph Waldo Emerson enjoyed fishing. Allow time for your unconscious to work between meetings.

Mind Mapping

Mind mapping is tool for capturing thoughts. It taps into the whole brain and uses graphical representation to capture thoughts. Tony Buzan developed mindmapping. A great resource on the subject is Joyce Wycoff's book Mindmapping: Your Personal Guide to Exploring Creativity and Problem Solving.

The elements of mind maps include:

- A focus on the problem or information being mapped -- placed in the center of the map
- Ideas are allowed to flow freely without judgment
- Key words are used to represent ideas
- One key word is printed per line
- Key word ideas are connected to the central focus with lines
- Color is used to highly and emphasize ideas
- Images and symbols are used to highlight ideas and stimulate the mind to make other connections
- Mindmapping allows your mind to dump its information on paper
- It encourages you to make associations and to look for new paths of thinking.
- It delays the critical judgment part of the thinking process.

Mindmapping can be used in meetings . It can also be used for writing (outlining your thoughts) and project management (include the WWWWWH$ in your mind map: Who, What, When Where, Why, How, Money.)

For a picture of a Mind Map and other Problem Solving Tools, see the Freebie section and email us. Send your e-mail to Stinnish@ameritech.net or click here Picture This. Please also include your fax number. The Freebie will be faxed.

Time to Choose & Act

Some of the techniques like Decision Trees help reach decisions.

Other tools leave you with a list of ideas but no way to evaluate them.

The first advice I can offer is to focus on what's right about a solution. We tend to be critical and negative of ideas; it is important to focus on what can be built upon an idea.

Here are two other Decision Making Tools:

1. PMI
   Edward De Bono offers the PMI technique. PMI stands for Plus (positive points), Minus (negative points) and I for interesting (neutral points). It is a valuable enhancement to the 'pros and cons' technique. When you are facing a difficult decision, simply draw up a table headed up 'Plus', 'Minus', and 'Interesting'. In the column underneath the 'Plus' heading, write down all the positive points of taking the action. Underneath the 'Minus' heading write down all the negative effects. In the 'Interesting' column write down all other points. The Interesting column offers people a "place" to put their perceptions and comments that don't fit squarely in the P or M column.

2. Force Field Analysis
   Force Field Analysis is a method offering a view of all the forces for or against a plan so that a decision can be made which takes into account all interests.

   Force Field Analysis is an effective method of getting a picture of all the forces for and against a plan. It helps you to weigh the importance of these factors and asses whether a plan is worth pursuing.

   Where you have decided to proceed with a plan, carrying out a Force Field Analysis helps you identify changes that might be made to improve the plan.

   When a solution has already been decided on, force field analysis allows you to look at all the forces for or against the plan. It helps you to plan or reduce the impact of the opposing forces, and strengthen and reinforce the supporting forces.

Freebies: SCAMPER your Solutions

FREEBIE: The Six Universal Questions

There are only six questions available to us:
What?

Where?
When?
How?
Why?
Who?

>From a practical standpoint, we ask the following questions
1. Why is it necessary?
2. Where should it be done?
3. When should it be done?
4. Who should do it?
5. What should be done?
6. How should it be done?

Michael Michalko, in his book Thinkertoys takes these basic questions and when trying to come up with innovative solutions uses the mnemonic SCAMPER:

1. Substitute
2. Combine
3. Adapt
4. Modify
5. Put to other uses
6. Eliminate
7. Reverse

Apply these words to your basic questions and see what new perspectives you gain during your problem solving.

More FREEBIES
For illustrations of the problem solving techniques, send an e-mail to Stinnish@ameritech.net or click here Picture This. Please also include your fax number.

Future T.I.M.E.

I will be speaking at University 2003, a day long educational conference sponsored by the Pittsburgh Chapter of Meeting Professionals International on April 23. I am looking forward to seeing my Pittsburgh based subscribers and returning to a city that I traveled to for many years.

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T.I.M.E. Gone By

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June 2000: Green Meetings and (Freebie) Resource List Of Exercises
July 2000: Values and (Freebie) Meeting Analysis
August 2000: Minimum/Minimal Meetings and (Freebie) Web Winners
October 2000: Evaluations and (Freebie) Sample Evaluation Questions
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