Creative Problem Solving (CPS Version 6.1™)
A Contemporary Framework for Managing Change

Donald J. Treffinger, Scott G. Isaksen, & K. Brian Dorval

Creative Problem Solving is…

… **a model to help you solve problems and manage change creatively. It gives you a set of easy-to-use tools to help translate your goals and dreams into reality. CPS Version 6.1™ is:**

Proven. CPS has been used for more than 50 years by organizations throughout the world and is supported by research, with hundreds of published studies on its effectiveness and impact.

Portable. CPS links your natural creativity and problem-solving approaches. It is an easy-to-learn process that can be readily applied by individuals and groups of many ages, in many organizations, settings, and cultures.

Powerful. CPS can be integrated with many organizational activities, providing new or additional tools for making a real difference. It can stimulate important and lasting changes in your life and work.

Practical. CPS can be used for dealing with everyday problems as well as long-term challenges and opportunities.

Positive. CPS helps you to unleash your creative talent and to focus your thinking constructively. When applied by groups, CPS promotes teamwork, collaboration, and constructive diversity when dealing with complex opportunities and challenges.

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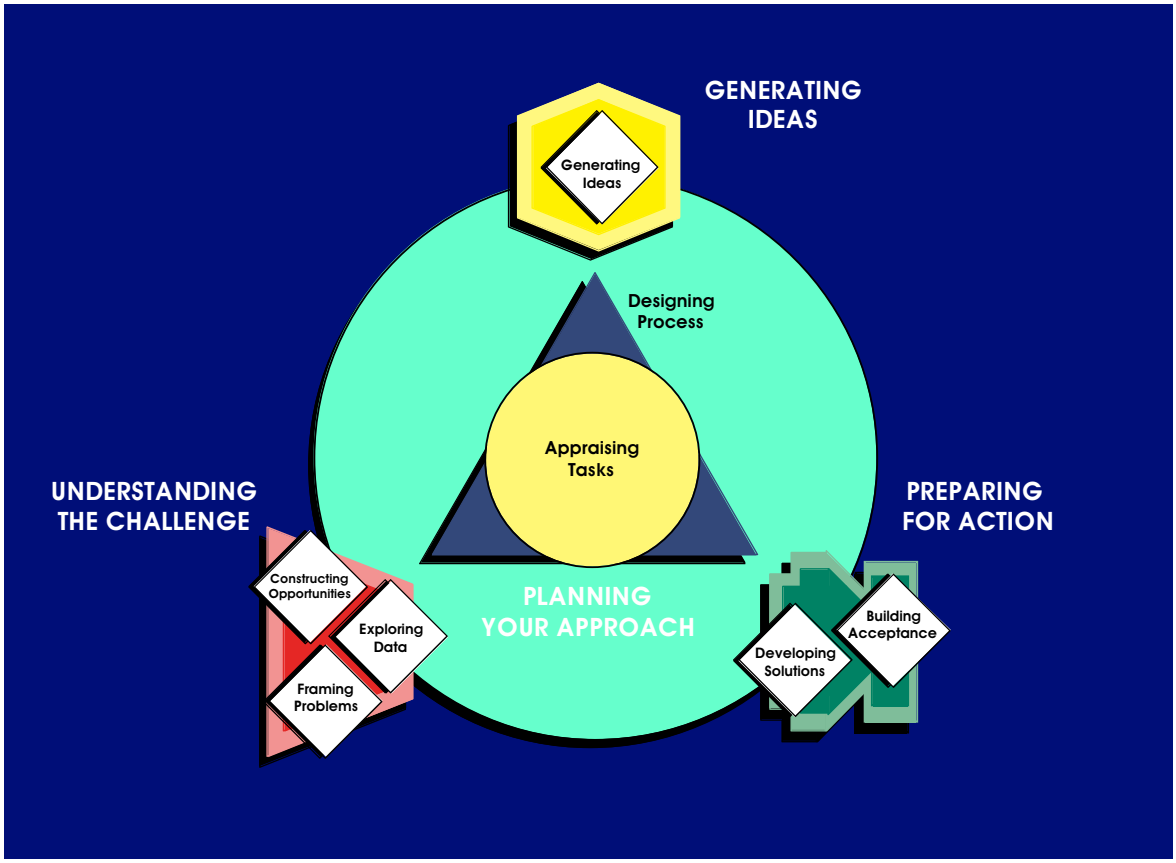
Creative Problem Solving (CPS)— Components and Stages

This pamphlet provides a concise summary of and guide to Creative Problem Solving (CPS Version 6.1™)— the latest version of our framework for solving problems and managing change. This summary of CPS Version 6.1™ includes our latest work and draws upon our texts *Creative Problem Solving: An Introduction, Third Edition* (Treffinger, Isaksen, & Dorval, 2000) and *Creative Approaches to Problem Solving, Second Edition* (Isaksen, Dorval, & Treffinger, 2000).

CPS Version 6.1™ guides you in using both your creative and critical thinking skills in harmony, on your own or in a group, to understand challenges and opportunities, generate ideas, and develop effective plans for solving problems and managing change. CPS Version 6.1™ includes the four main components and eight specific stages illustrated in the figure below and described on the following pages.



The Creative Problem Solving Framework (CPS Version 6.1™)

Understanding the Challenge

Understanding the Challenge involves investigating a broad goal, opportunity, or challenge, and clarifying, formulating, or focusing your thinking to set the principal direction for your work. *Use one or more of the three stages in Understanding the Challenge when you need to explore and focus your thinking about your goals, objectives, or directions you hope to pursue.*

Constructing Opportunities. Stating broad, brief, and beneficial opportunities and goals. Considering possible opportunities and challenges, and identifying a constructive goal to pursue.

Benefit for you: Constructing Opportunities helps you focus your attention and energy on positive directions— goals that will help you move forward with confidence and enthusiasm!

Exploring Data. Examining many sources of data from different points of view, and focusing on the most important elements of the task or situation. Considering what you know about the situation and what you need or want to know, to get to the "heart" of the matter.

Benefit for you: Exploring Data helps you to locate the key elements in the current realities of your task— factors that help you understand the situation, instead of distracting you from your real goal!

Framing Problems. Generating many, varied, and unusual ways to pose the problem, and then focusing on a specific statement that will "open the door" for and invite creative ideas. It helps you to think about, "How might we…" rather than "We can't because…."

Benefit for you: Framing Problems helps you to express your problems or challenges in ways that build motivation, excitement, and enthusiasm for discovering and constructing creative ideas!

Generating Ideas

Generating Ideas, which has one stage, involves coming up with many new possibilities. Generating Ideas is viewed by many people as "creative," and is sometimes (in error) equated with "brainstorming." We view Generating Ideas as one important component and stage among several in CPS, and we use brainstorming as one specific tool (among many) for generating options. *Use this component and stage when you need to generate many, varied, and unusual ideas for a clearly stated problem, and then identify the promising possibilities.*

Generating Ideas. An open, exploration or search for ideas, in which you generate many ideas (fluency in thinking), varied ideas and new perspectives (flexibility), and unusual or novel ideas (originality), and then focus your thinking by identifying ideas with interesting or exciting potential to refine, develop, and put to use.

Benefit for you: Generating Ideas helps you to "stretch" your thinking, and to break away from the limitations or assumptions that might hold you back. CPS tools give you practical help for thinking that is "inside the box in new ways" as well as "outside the box."

Preparing for Action

Preparing for Action involves exploring ways to make promising options into workable solutions and preparing for successful implementation. It helps you to take promising solutions and develop them so they're as strong as you can possibly make them, and to consider ways to create the best possible chance of success. *Use one or more of the two stages in this component when you need to move promising new possibilities towards successful action or implementation.*

Developing Solutions. Applying deliberate strategies and tools to analyze, develop, and refine promising possibilities, and to transform them into promising solutions.

Benefit for you: Developing Solutions helps you to use practical tools to turn "good ideas" into powerful new solutions.

Building Acceptance. Considering ways to build support and to decrease or overcome resistance to possible solutions, and planning specific ways to carry out and evaluate your results and effectiveness.

Benefit for you: Building Acceptance helps you to implement creative ideas successfully!

Planning Your Approach

Planning Your Approach involves keeping track of your thinking while it is happening, to insure that you're moving in the direction you want to go. It also guides you in "customizing" or personalizing your approach to applying CPS. *Use these stages when you need to decide whether to use CPS or to monitor, manage, and modify your activities as you apply CPS.*

Appraising Tasks. Determining whether CPS is a promising choice for dealing with a particular task, and taking stock of the commitments, constraints, and conditions you must consider to apply CPS effectively (the *people* involved, the *results* you desire, the *context* in which you are working, and the *methods* available).

Benefit for you: Appraising Tasks helps you to get the best from people, resources, and methods—enabling you to decide wisely about applying the method and increasing your chances of success.

Designing Process. Using your knowledge of the task and your needs to plan the CPS components, stages, or tools that will be best-suited to help you reach your goals.

Benefit for you: Designing Process helps you choose and use the components, stages, or tools that you really need— increasing the relevance and efficiency of your efforts.

For More Information:

Isaksen, S. G., Dorval, K. B., & Treffinger, D. J. (1998). *Toolbox for Creative Problem Solving: Basic Tools and Resources*. Williamsville, NY: Creative Problem Solving Group—Buffalo.

Isaksen, S. G., Dorval, K. B., & Treffinger, D. J. (2000). *Creative approaches to problem solving. (2nd Ed.)*. Dubuque, IA: Kendall/Hunt.

Treffinger, D. J., Isaksen, S. G., & Dorval, K. B. (2000). C*reative problem solving: An introduction (3rd Ed.)*. Waco, TX: Prufrock Press.

Effective Problem Solving Relies Upon

Creative Thinking

Making and expressing meaningful new connections.

It is a process in which we

Perceive gaps, paradoxes, challenges, concerns or opportunities;

and then generate by--

- Thinking of many possibilities;
- Thinking and experiencing in varied ways, with different viewpoints;
- Thinking of new and unusual possibilities and;
- Extending and elaborating alternatives.

&

Critical Thinking

Analyzing, refining, developing and choosing options.

It is a process in which we

Screen, support and select possibilities;

and then focus by--

- Making inferences and deductions;
- Comparing and contrasting options;
- Categorizing and sequencing options;
- Improving and refining promising alternatives;
- Making effective judgments and decisions.

When generating possibilities, your creative thinking is activated; refrain from judging while you are generating possibilities.

When generating...

Use Deferred Judgment
and
Seek Quantity
Freewheel
Look for Combinations

When analyzing, refining or developing possibilities, your critical thinking is activated; examine possibilities constructively to enhance or strengthen them.

When focusing...

Use Affirmative Judgment
and
Be Deliberate
Consider Novelty
Stay on Course

Guidelines for Generating

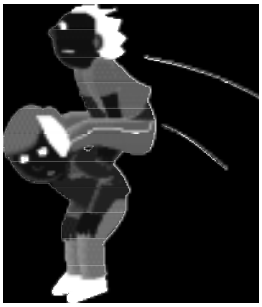
1. We rule out Criticism and Praise... Don't say "yes" to an idea, and don't say "no" to an idea.

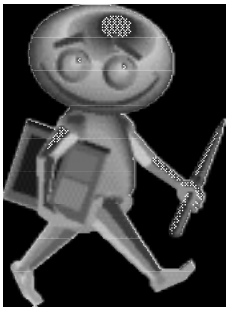
2. We want quantity. The larger the number of ideas, the greater the chance of reaching the best solutions.

It is very important students learn to withhold criticism whenever generating ideas. The goal is to generate as many ideas as possible in as short a time as possible. This won't happen if the process is delayed by either criticism or comments on the ideas as they are being generated.

Guidelines for Generating

3. We seek combinations and improvements. We encourage group members to combine and "hitchhike" ideas.





4. We welcome freewheeling. The wilder the ideas, the better. Offbeat and silly ideas may trigger practical breakthroughs that might not otherwise occur.

Scraps of paper are excellent for use by students when generating. By jotting, a note about each idea, then placing the note in a pile, the team can keep all ideas for reference when writing. They may place them in piles by category to keep a check on flexibility.

Guidelines for Focusing

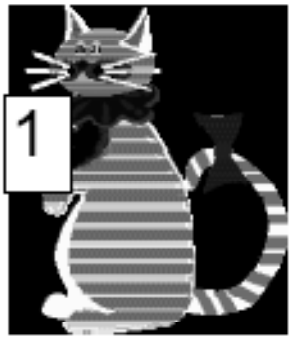
1. We are thorough, but positive, when we are analyzing, refining, or choosing, possibilities.

2. We follow a plan, and we know and use tools to help us focus possibilities efficiently.

These guidelines are adapted from Treffinger, Isaksen, and Dorval (1994)

Guidelines for Focusing

3. We keep our eye on our goal. We focus on what we really want and need to accomplish.



4. We remember to stay open to all ideas, and to look deliberately for new and unusual possibilities.

These guidelines are adapted from Treffinger, Isaksen, and Dorval (2000)

Name _____ Date _____

Creative and Critical Thinking Questionnaire

Directions. Read each of the following ten items. Put an "X" after "True" if the statement is true, or an "X" after "False" if the statement is false.

1. Critical thinking means evaluating ideas to find the one best answer. True___ False___
2. Creative thinking is very rare, and can only be done by a few very special people. True___ False___
3. Critical thinking is something we can learn. True___ False___
4. Most creative people are artists. True___ False___
5. Critical thinking means telling people what's wrong with their ideas. True___ False___
6. Creative thinking involves thinking of many ideas. True___ False___
7. People use creative thinking to look at problems in new or different ways. True___ False___
8. Critical thinking involves being fair in making judgments. True___ False___
9. Critical thinking is criticizing. True___ False___
10. Creative thinking means being very logical. True___ False___

Key to correct responses - "Creative & Critical Thinking Questionnaire"

Item 1. *False* – Critical thinking also involves comparing and contrasting, organizing information, sequencing material, and other skills.

Item 2. *False* – Everyone can think creatively.

Item 3. *True* – We can all improve our critical thinking.

Item 4. *False* – Art is one way to be creative, but people can be creative in anything they do.

Item 5. *False* – Critical thinking is not attacking people or putting down their ideas. It involves analyzing, improving, or choosing ideas.

Item 6. *True* – Seeing many possibilities is one important part of creative thinking.

Item 7. *True* – This is the kind of creative thinking we call flexibility.

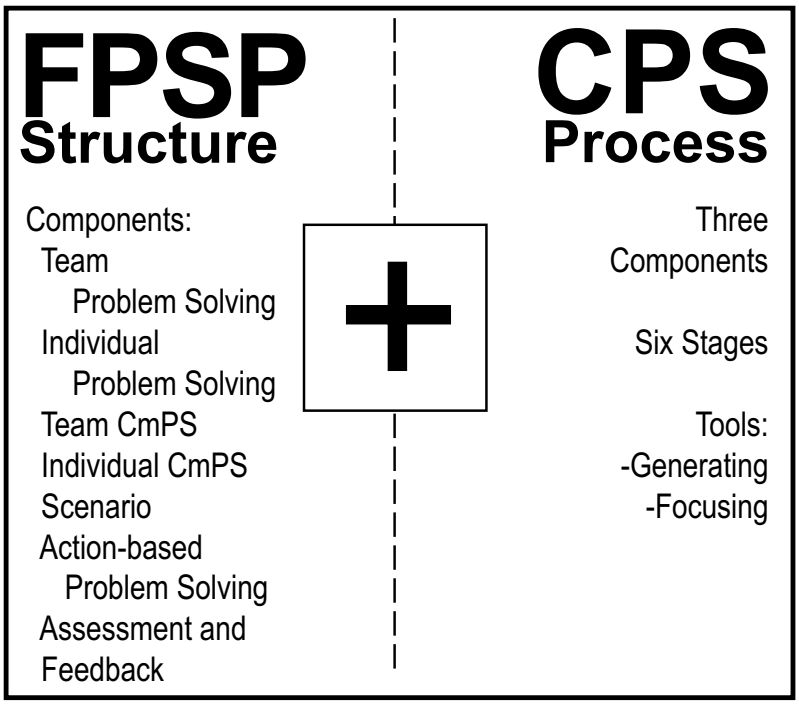
Item 8. *True* – Critical thinking does mean examining ideas fairly and thoroughly.

Item 9. *False* – Criticizing usually means telling someone just what's wrong or what you don't like; critical thinking involves examining ideas in a thorough and balanced way.

Item 10. *False* – Creative thinking is freely and playfully exploring all kinds of possibilities, and it does not have to be limited by, or restricted to, what seems logical.

The P2 Project:
Partners in Problem Solving

A Joint Venture of the Future Problem Solving Program and
the Center for Creative Learning



Future Problem Solving Program
Program Components

Action-based Problem Solving
Primary Division
Junior Division
Middle Division

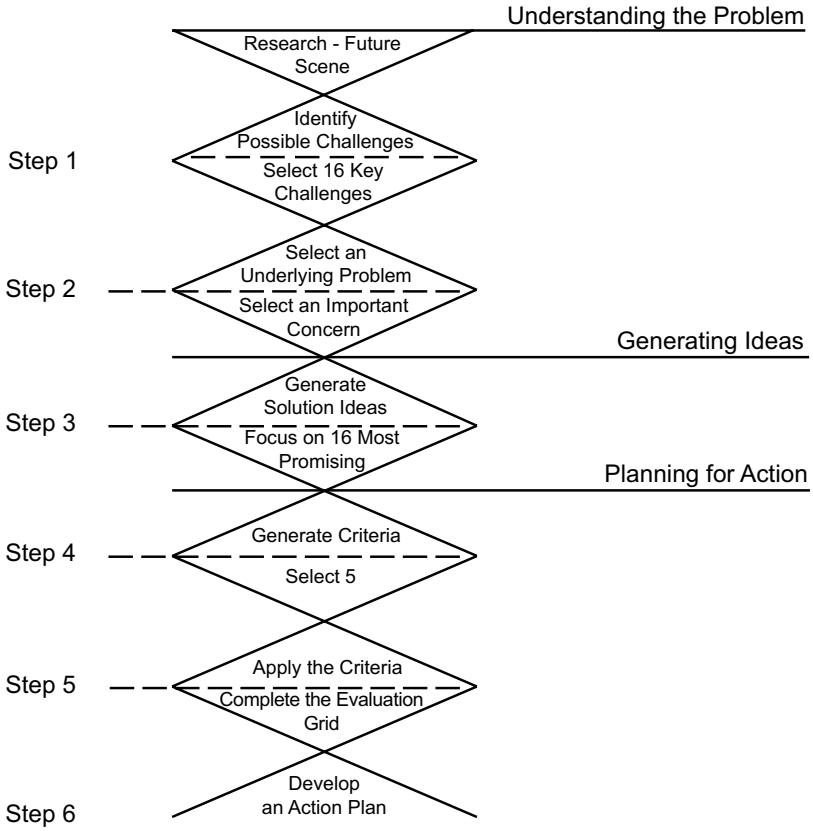
Community Problem Solving Team andIndividual
Junior Division
Middle Division
Senior Division

Scenario Writing
Junior Division
Middle Division
Senior Division

Team and Individual Problem Solving
Junior Division
Middle Division
Senior Division

Assessment
Evaluation and Feedback;
Continuous Improvement and Innovation

Problem Solving Stages in FPSP



Future Problem Solving Program

The Six-Step Model

UNDERSTANDING THE PROBLEM

Research the Topic
Read and Analyze the Future Scene

1. Identify Challenges
2. Select an Underlying Problem

GENERATING IDEAS

3. Produce Solution Ideas

PLANNING FOR ACTION

4. Generate and Select Criteria
5. Apply Criteria
6. Develop an Action Plan

SYNECTICS—Making Metaphors

by Betty Hartzog

GETTING ORIENTED: SYNECTICS is a derivative of the Greek word “syn” and refers to the joining of unrelated elements. The significance of this concept to creative thinking is the association of facts and ideas into new configurations of interpretation and understanding.

SYNECTICS is a structured approach to problem solving. It is not the intent here to provide the entire process, but to provide some of the operational mechanisms which have immediate application to promoting creative thinking and writing in the classroom.

Two basic processes (Prince, 1976) of SYNECTICS are –

- *Making the Strange Familiar* – combining something familiar with a new or unfamiliar problem to obtain a new perspective on it.
- *Making the Familiar Strange* – combining something strange to something familiar in order to gain a new perspective on it.

There are three operational mechanisms (Synectics, Inc., 1968), which deliberately *Make the Familiar Strange:*

1. *Direct Analogy* (simple comparison like a simile or metaphor)
2. *Personal Analogy* (being the thing – personification backwards)
3. *Symbolic Analogy* (compressed conflict oxymoron)

Directions: Have students fill in “Responsibility Synectics.” Then let each student share orally each part consecutively without any discussion. (Everyone will say his/her “a,” then “b,” then “c.”). This is “whole brain” thinking because students visualize in their right brain and make sense of it in their left brain. Because of the multiplicity of ideas and left-right, left-right sequence, the students reach the point of high “creativity” very quickly. Go through the process; then have the students produce a product.

Examples: Poem; story; paragraph on responsibility; list of personal responsibilities as a student, teacher, parent, employee and employer; paragraph on the ideal student, teacher, parent, etc.; plan for accepting the responsibilities they project for themselves in the next year or five years; etc.