BUFFALO: A CENTER FOR CREATIVITY

Alex F. Osborn, Founder:
Creative Education Foundation
This presentation highlights the developmental history of our approach to Creative Problem Solving. We will describe the history by using the familiar notation of computer software since, in many ways, CPS is “software for the mind.”
CPS version 1.0

Making the Creative Process Explicit and Deliberate

Alex Osborn, founding partner of Batten, Barton, Durstine & Osborn, develops the first version of Creative Problem Solving. He also founds the Creative Education Foundation and shares a vision for an academic program.
OSBORN’S POPULAR BOOK

ALEX F. OSBORN, L.H.D.

Applied Imagination

PRINCIPLES AND PROCEDURES OF CREATIVE PROBLEM-SOLVING

"Imagination is more important than knowledge." ALBERT EINSTEIN

31st PRINTING • 3rd REVISED EDITION


CPSB.
OSBORN’S SEVEN-STEP CPS PROCESS (v1.0)

1. Orientation: Pointing up the problem
2. Preparation: Gathering pertinent data
3. Analysis: Breaking down the relevant material
4. Hypothesis: Piling up alternatives by way of ideas
5. Incubation: Letting up to invite illumination
6. Synthesis: Putting the pieces together
7. Verification: Judging the resultant ideas

Source: Osborn’s Applied Imagination - First edition, 1953

1. **Fact-Finding:** Problem Definition (picking out and pointing up the problem) and Preparation (gathering and analyzing the pertinent data)

2. **Idea-Finding:** Idea Production (thinking up tentative ideas) and Idea Development (selecting, reprocessing, modifying, and combining)

3. **Solution-Finding:** Evaluation (verifying tentative solutions) and Adoption (deciding on and implementing the final solution)

CPS version 2.0

Preparing CPS for an Instructional Program

Sid Parnes adapts Osborn’s CPS to prepare instructional programs for the Annual Creative Problem Solving Institutes and undergraduate courses
OSBORN-PARNES FIVE-STAGE CPS PROCESS (v2.0)

Fact-Finding: Discovering relevant facts
Problem-Finding: Determining the real problem
Idea-Finding: Generating options
Solution-Finding: Evaluating ideas with criteria
Acceptance-Finding: Preparing to put an idea into effect

Source: Parnes, 1967
PARNES’ SPIRAL CPS MODEL (v2.1)

Source: Parnes, 1967
OSBORN-PARNES
FIVE-STAGE CPS MODEL (v2.2)

Source: Noller, Parnes, & Blondi, 1976
**CREATIVE PROBLEM SOLVING (v2.3)**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Sensitivity</td>
<td>A situation that we recognize that we want to do something about</td>
</tr>
<tr>
<td>Mess or Objective</td>
<td></td>
</tr>
<tr>
<td>FACT FINDING</td>
<td>A situation is looked at from all angles...</td>
</tr>
<tr>
<td></td>
<td>All data possible collected...</td>
</tr>
<tr>
<td></td>
<td>Gathering and analyzing data in preparation for defining the problem</td>
</tr>
<tr>
<td>PROBLEM FINDING</td>
<td>State in many ways what the problem might be... to formulate a working</td>
</tr>
<tr>
<td></td>
<td>definition of the challenge...</td>
</tr>
<tr>
<td></td>
<td>Analyzing problematic areas in order to pick out and point up the problem</td>
</tr>
<tr>
<td></td>
<td>to be attacked.</td>
</tr>
<tr>
<td>IDEA FINDING</td>
<td>Brainstorm for ideas... Deferment of judgment, search for quantity...</td>
</tr>
<tr>
<td></td>
<td>Idea production - thinking up, processing, and developing numerous possible</td>
</tr>
<tr>
<td></td>
<td>leads to solution.</td>
</tr>
<tr>
<td>SOLUTION FINDING</td>
<td>Choose from ideas a few of the ones we especially like and weigh them</td>
</tr>
<tr>
<td></td>
<td>against some evaluative standards... Evaluating potential solutions</td>
</tr>
<tr>
<td></td>
<td>against defined criteria.</td>
</tr>
<tr>
<td>ACCEPTANCE FINDING</td>
<td>Devise a plan of action by anticipating any need to modify our chosen</td>
</tr>
<tr>
<td></td>
<td>idea(s) to provide the best and most acceptable solution... Adoption -</td>
</tr>
<tr>
<td></td>
<td>developing a plan of action and implementing the chosen solution.</td>
</tr>
</tbody>
</table>

**Plan**

**Action**

**New Challenges**

*Source: Treffinger, Isaksen, Firestien, 1982*
VISIONIZING

I dream a dream,
A vision great --
My world will
Appreciate!

Sidney J. Parnes

VISIONIZING MODEL (v2.4)

VISIONIZING

Source: Parnes, 1988
CPS version 3.0

Linking Person to Process

Isaksen and Treffinger deliberately link personal orientation and situational outlook onto the front-end of CPS by adding a sixth stage called Mess-Finding.
## Creative Problem Solving (v3.0)

### Divergent Phase

**Experiences, roles and situations are searched for messes... Openness to experience; exploring opportunities.**

**Data are gathered; the situation is examined from many different viewpoints; information, impressions, feelings, etc. are collected.**

**Many possible statements of problems and sub problems are generated.**

**Many alternatives and possibilities for responding to the problem statement are developed and listed.**

**Many possible criteria are formulated for reviewing and evaluating ideas.**

**Possible sources of assistance and resistance are considered; potential implementation steps are identified.**

### Problem Sensitivity

**MESS FINDING**

Challenge is accepted and systematic efforts undertaken to respond to it.

**DATA FINDING**

Most important data are identified and analyzed.

**PROBLEM FINDING**

A working problem statement is chosen.

**IDEA FINDING**

Ideas that seem most promising or interesting are selected.

**SOLUTION FINDING**

Several important criteria are selected to evaluate ideas. Criteria are used to evaluate, strengthen, and refine ideas.

**ACCEPTANCE FINDING**

Most promising solutions are focused and prepared for action; Specific plans are formulated to implement solution.

### Convergent Phase

**New Challenges**

*Source: Isaksen, Treffinger, 1985*
CPS version 4.0

Breaking Up the Process

Based on impact studies and a series of applied experiences, Isaksen and Treffinger break up the six stages into three main components.
Re-examining the Osborn-Parnes Approach to CPS

Isaksen, Dorval and Treffinger gain further experience outside the academic setting and realize that further work on CPS is necessary.
• A deliberate process was developed for nurturing creative behavior.

• CPS was tested and proven to be effective and powerful.

• An academically-based instructional program was established to continuously improve CPS.

• A large network of informed professionals who practiced CPS was developed through CPSI and extension programs.

• Broad involvement from both researchers and practitioners.

• A variety of support materials and resources were developed and made widely available.
MAJOR CHALLENGES OF
THE OSBORN-PARNES CPS TRADITION

- Seen as divergently focused - sometimes even confused as being synonymous with brainstorming.

- Seen as a panacea - good for ALL problems and challenges.

- Some seen as “naturally better” at using and applying CPS.

- Despite admonitions to the contrary, CPS was “run-through” as a complete linear sequence of stages.

- Broad applicability questioned - “We don’t really use CPS...we only use a few stages or tools where and when needed.”

- Still needed to better understand what worked for whom under what circumstances.
Creative Problem Solving: An Introduction

Donald J. Treffinger and Scott G. Isaksen

1992

Center for Creative Learning
4152 Independence Ct., C-7
Sarasota, FL 34234
(813)-351-8862

CPS COMPONENTS AND STAGES (v4.0)

Understanding the Problem
- Seeking opportunities for problem solving.
- Establishing a broad, general goal for problem solving.
- Examining many details, looking at the mess from many viewpoints.
- Determining the most important data to guide problem development.
- Considering many possible problem statements.
- Constructing or selecting a specific problem statement.

Generating Ideas
- Producing many, varied, and unusual ideas.
- Identifying promising possibilities, alternatives or options having interesting potentials.

Planning for Action
- Developing criteria for analyzing and refining promising possibilities.
- Choosing criteria, and applying them to select, strengthen, and support promising solutions.
- Considering possible sources of assistance / resistance and possible actions for implementation.
- Formulating a specific plan of action.

BREAKING UP THE LINEAR MODEL
CPS version 5.0

Taking a Descriptive Approach

Isaksen and Dorval continue work on finding a way to manage the process now that it is no longer a single predetermined series of stages.
<table>
<thead>
<tr>
<th>Descriptive</th>
<th>Prescriptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible framework</td>
<td>Predetermined pathway</td>
</tr>
<tr>
<td>Realistic - based on observation and experience</td>
<td>Authoritative - determined by custom or expertise</td>
</tr>
<tr>
<td>Open - many choice points</td>
<td>Targeted - approaches and outcomes are specified</td>
</tr>
</tbody>
</table>
Descriptive approach to CPS is enhanced

Field work and research into the graphic depictions of natural creative processes leads to major new insights. Based on hundred of drawings, we found new ways to illustrate CPS and important style differences in how people approach process.
EXAMING YOUR PERSONAL CREATIVE PROCESS

1. Think back to a problem situation that was...
   - Real
   - Needed a new approach
   - Challenging
   - Motivating
   - Something you could influence
   - Dealt with successfully

2. Design, Illustrate, or draw your personal creative process

3. Share your drawing with your group

4. Identify similarities and differences

5. Share key findings with larger group
Pershyn was able to identify CPS graphics that were style neutral.
COMPONENTS OF CPS (v5.0)

Generating Ideas

Understanding the Problem

Planning for Action


Task Appraisal Introduced

Isaksen, Dorval and Treffinger devise a way to help people determine their approach through CPS
PERSONAL ORIENTATION
Understanding the People Involved in the Task

CONFIRMING THE APPROPRIATENESS OF THE METHOD
Confirming the Appropriateness of the Method

SITUATIONAL OUTLOOK
Understanding the Context Surrounding the Task

METHODOLOGY
Understanding the Content of the Task

DESIRED OUTCOMES

Source: Isaksen, Dorval, Treffinger, 1994
CPS version 6.0

Integrating the Model into a Systemic Framework

Isaksen, Dorval and Treffinger clarify elements of the core system and work on a much more user-friendly approach to CPS
COMPONENTS OF CPS (v6.0)

- UNDERSTANDING THE PROBLEM
- GENERATING IDEAS
- PROCESS PLANNING
- PLANNING FOR ACTION


OVERCOMING PAST CHALLENGES

Toolbox for Creative Problem Solving

Made CPS language more natural and easier to use in an everyday context.

Notebook allows supplementary process materials to be flexibly added and used.

# Foundations of CPS v6.0

## Guided for Generating Options

- BRAINSTORMING WITH POST-ITS®
- BRAINWRITING
- FORCED FITTING
- IMAGERY TREK
- LADDER OF ABSTRACTION
- MORPHOLOGICAL MATRIX
- SCAMPER
- VIR (VISUALLY IDENTIFYING RELATIONSHIPS)
- BRAINSTORMING

## Guided for Focusing Options

- ALUo (ADVANTAGES, LIMITATIONS, UNIQUE QUALITIES, OVERCOME LIMITATIONS)
- EVALUATION MATRIX
- HIGHLIGHTING
- MUSTS/WANTS
- PCA (PAIRED COMPARISON ANALYSIS)
- SELECTING HITS
  - SML (Short, Medium, Long)
  - CRITERIA

## Choosing Tools for Generating Options

- [ ]

## Choosing Tools for Focusing Options

- [ ]
CHARACTERISTICS OF CPS v6.0

- Successfully used in educational, commercial, not-for-profit, as well as personal situations
- Process naturally utilizes current skills and knowledge
- Provides common language for people across functions/divisions
- Promotes innovation, usefulness, and novelty when problem solving
- Personal strengths are more fully realized on a regular basis
Appraising Tasks and Designing Process are integrated into CPS version 6.1™

Isaksen, Dorval and Treffinger form and integrate a fourth component into CPS and now take a systems approach.
ELEMENTS OF APPRAISING TASKS

- **PEOPLE**: Understanding the people involved
- **METHOD**: Understanding the process options
- **CONTENT**: Understanding the desired results
- **CONTEXT**: Understanding the situation
The process you use depends on:

- The degree of ownership (interest, influence, imagination) for the task.
- The specific benefits and costs of using CPS or other methods.
- The nature and kind of creativity required from the task.
- The climate (stimulants and obstacles) for producing a creative outcome.
DESIGNING PROCESS IN A NUTSHELL

Components, Stages, Tools

Need

Level Scale

Individual, Group, Organization

Session, Project, Initiative

Source: Isaksen, Dorval, & Treffinger, 2000
Learning and Applying
CPS version 6.1™

CPS version 6.1™ (Our current version of Creative Problem Solving) is a proprietary system and approach jointly developed and owned by The Creative Problem Solving Group, Inc. for applications to organizations, and The Center for Creative Learning, Inc. for educational applications.
TODAY’S INNOVATORS ARE USING CPS v6.1™

- New Product Development Initiatives
  - Increased Meeting Efficiency
- Promotion and Development of Creativity and Innovation
  - Change Management Efforts
    - Quality Improvement
  - Improved Communication
  - Discovering Consumer Needs
CPSB UTILIZES CPS Version 6.1™

Igniting Creative Potential

CPSB’s LINES OF SERVICE

Leading Creative Change

Achieving Creative Results
You can learn how to use this approach by attending one of our open courses - or by attending a course offered by any one of our international group of licensed associates.

See our web site for a current schedule and list of licensees.
IN-DEPTH RESOURCES ABOUT CPS v6.1™

Toolbox for Creative Problem Solving
Each tool comes with its own booklet, step-by-step instructions, tips, and worksheets. Information-packed chapters help you understand creativity at a systems level, utilize productive thinking guidelines, and choose tools for the most appropriate situation.

Creative Problem Solving: An Introduction
Completely revised and updated, this book provides you with a concise overview that is consistent with the comprehensive text, Creative Approaches to Problem Solving: A Framework for Change.

Facilitative Leadership: Making a Difference with Creative Problem Solving
Facilitative leadership focuses on service - helping, developing, and strengthening others in ways that inspires motivation and commitment. Filled with practical recommendations and resources, this book pulls together our knowledge of facilitative leadership and what it takes to promote creativity.
The European Association of Creativity and Innovation awarded *Creative Approaches to Problem Solving* by Isaksen, Dorval and Treffinger the Best Book on Creativity Award.
CPSB’s Mission - To help people in organizations unleash creative potential to realize dramatic results

- Imagination Applied -

Our Job - To help our clients ignite creative potential and lead creative change to achieve creative results

- Imagination Applied - to achieve productive outcomes
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