The Creative Problem Solving (CPS) Model

This model has its roots in work by Alex Osborne and Sidney Parnes, both pioneering leaders in the field of creativity. Osborne fathered the concept of brainstorming in the late 1940’s and founded the Creative Education Foundation (CEF) in Buffalo, New York. Parnes led the CEF for many years and formalized Osborne’s concepts of a multi-stage (six) CPS Model. Built around the basic tool of brainstorming, the Parnes-Osborne model heavily emphasizes a continuously repeating and complementing cycle of diverge-converge-diverge-converge. Graduates of the School for Innovators are trained in leading 30, 45 and 60-minute CPS sessions – short models that focus primarily on Problem-Finding, Idea-Finding and Action-Finding.

Stages of the CPS Model

1. **Mess-Finding** (Looking at the “mess” of interrelated issues, challenges, problems, and opportunities to find an area on which to focus).

2. **Fact-Finding** (exploring knowns, unknowns, issues, challenges, missing or needed information to expand understanding of the mess).

3. **Problem-Finding** (Discovering a suitably “fuzzy” problem, rife with opportunity or need for unusual and novel solutions and approaches).

4. **Idea-Finding** (Generating a large number of diverse and novel ideas relating to the problem).

5. **Solution-Finding** (Converging on a subset of ideas, synthesizing and refining them into potentially useful solutions, and exploring barriers and approaches to acceptance).

6. **Action-Finding** (Generating and refining potential action steps to move the solutions through acceptance and into implementation).
Post-it Brainstorming

Idea generation is a race against time, not painful evaluation

Overview: The Osborn-Parnes creative problem solving technique has an efficient way to generate large numbers of possible ideas; then as a group, come up with a collective agreement on which are the most important.

Goals:
1. Rapidly generate many ideas around a topic (Divergent thinking)
2. Cluster ideas into ‘themes’ that to be acted on (Convergent thinking)

Materials:
3x5 Post-it pad for each participant, pens, flip chart per group

Participants:
Best if placed in groups of 4 to 8

Procedure:
1. Number people off in groups of 6 (ideal). Can be altered to groups of 4 to 8
2. Have them stand around the flip chart, pen in hand
3. Instruct them how to fill out an idea on a post-it
   a. As you think of an idea, write it down on a post-it. Try to write it with a subject and a verb
   b. As you post the note on the flip chart, call it out for the group to hear
   c. Generate as many ideas as rapidly as possible. Real ones, fun ones. In this exercise, quantity is equal to quality.
   d. Write one idea per post-it.
4. Frame the specific topic (IMPORTANT) they are to be working on. The clearer the better. Example “Generate as many criteria as possible about what makes an outstanding team member.
5. Announce to them a short amount of time (2 to 5 minutes) to generate ideas on a specific topic (Divergent thinking).
6. Holler Go! to start them
7. Give a count down each minute to move them along
8. Tell folks if they are explaining their idea, they are not generating. Goal is numbers, not rationale.
9. As a facilitator, steep up the energy by calling out ideas that might stimulate thinking. The facilitator’s energy is contagious.
10. Push them to get more ideas. The more ideas on the flip chart the more to work with.
11. At the end of the idea generation period, stop them. Next, instruct them collectively to look at their post-its and begin moving/clustering them into common or natural themes. (2 to 4 minutes)
12. Once clustering “head” each cluster with a word or two that characterizes the entire cluster.
Osborn-Parnes Creative Problem Solving
The secret sauce to a Solution Session

Overview: To creatively solve a problem, use the previously described post-it brainstorming process for each of the “Finding” sessions below.

If the topic is specific and facilitated aggressively, the group can come up with a collective solution and action plan, within 1 to 2 hours. Large cross-functional or institution-wide set of solutions can be completed in 4 hours.

Participants: Those with knowledge and stake in the outcome of the solutions

1. Mess/Objective-Finding (Looking at the “mess” or objectives interrelated issues, challenges, problems, and opportunities to find an area on which to focus). List significant challenges/opportunities, then isolate the main ones

2. Problem-Finding (Discovering a suitably “fuzzy” problem, full of opportunity or need for unusual and novel solutions and approaches). List of problem statements, then identify the best wording of the central problem. Start statement with “how to…to help folks form how-to statements:

   REFRAMING THOUGHT CARD

   Problem-Finding

   Thought Starters:
   - How to Correct… How to Produce…
   - How to Improve… How to Shift…
   - How to Change… How to Develop…
   - How to Overcome… How to Stop…
   - How to Reduce… How to Exceed…
   - In What Way Might We… How to Do Away With…

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3. Solution-Finding (Converging on a subset of ideas, synthesizing and refining them into potentially useful solutions, and exploring barriers and approaches to acceptance). Possible solutions derived from the idea finding, then the selection of the best one(s)

   Action-Finding (Generating and refining potential action steps to move the solutions through acceptance and into implementation). The action steps needed for successful installation. Most times staff take the solution post-its and add names, resources and target dates to them.
Facilitating a Creative Problem Solving Session

This may not be THE way to do it, but it is my way to do it. Duke

1. Remember that the session is built on energy, speed, quantity of insight.
2. Your role is to push folks faster than they feel comfortable. Beyond their comfort zone and into their participation zone.
3. **Pretend you are General Patton** and you have to push these guys to get the most out of them. These are new recruits so they don’t know their capacity yet and that is why you are there. *Move-it* is you bark. Your role is to stimulate, motivate, push them along so that more ideas get up on the paper. The more they have, the more they have to work with. This means no time spent on analysis or explaining the idea. Just get the ideas out and up and on the wall.
4. **You don’t have to be crazy** like me; but it helps.
5. Frame the session – what is the purpose of the session, what to expect, what they should feel, what is the outcome.
   - Remind them that the session should be **loud and fast**.
   - For best results, **everyone needs to participate**. All input is vital.
   - **Post-it etiquette**. Post-its are your idea collectors. For best results consider these instructions
     1. Everyone is to be equipped with a marker (I recommend the slim Crayola pens so they can be seen at a distance) and a 3x5 post-it pad to write down their ideas, and their brains.
     2. **Three words** per Post-it to give it meaning
     3. **One thought per Post-it**
   - Warn them the ideas will **seem half-baked**, but will be complete and formed out in subsequent meetings.
   - Tape up **flip chart paper** for each ‘Finding’ sessions –
   - Give them an understanding of the two types of thinking and processes. Divergent (all possible) and Convergent (cluster, select the best).
   - Give a brief **roadmap** in each of the sessions Objective or Mess Finding, Fact Finding, Problem Finding, Idea Finding, Solution Finding and Acceptance Finding (I use Objective, Problem, Solution, Acceptance sessions). See attached slides and side notes.
6. For best results, **limit the group to eight**; any more will restrict the idea flow per person.
7. Each team is to assign and deputize an idea ‘poster’.
8. When one writes down his insight, they **yell it out for others to hear**. This actually triggers more thought. Each insight must have a subject and a verb to help the scribe.
9. As the post-it is yelled out, it is handed to the idea ‘poster’ who places it up on a flip chart as quickly as possible. Idea ‘poster’ should push the folks to add more ideas. Set a quota, we won’t wait until we get 20 ideas. **Remind them**, Quantity of ideas equals Quality.
10. During the session, if a group seems stuck – **stand in and ask questions** which will guide to further insight
11. Prior to the end of a ‘Finding’ session, give them a **2-minute warning**.
12. If a team is finishes faster than the rest – either have them refine their findings to keep all the groups together or give them the instructions to the next type of a session.
13. Problem Finding should take the longest time. A well-stated problem is half-solved. To develop a problem statement, start it with **“How to”**……
14. Test to see if all the right problems have been listed – see how each of the problem statements line up with the objective (mess) finding session. If all the problems were fixed, would the objectives be met.
15. Don’t be surprised if they don’t take their solutions and post them over on the acceptance finding to save time.
16. Ask at the end of the Solution Session – Do these all fix the problems listed?
17. Make sure that all the post-its on the flip charts are saved, typed and forward back to the attendees within a few days. It keeps the ideas fresh, gives the attendees more to work with in the subsequent meetings.
Creative Problem Solving Facilitator Prompts
to spark more ideas

Mess Finding

**Divergent**
- What is keeping us from being successful?
- What is in the way?
- Wouldn’t it be nice if?
- What must change to be successful?

**Convergent**
- Identify the significant?
- Prioritize?
- Where do we start?
- Where is our showstopper?

Fact Finding

- What is it we know?
- What is it we don’t know?
- What is the cost of doing nothing?
- Where are the relationships?
- What is it we need to know?

**Problem Finding** (most critical, most time) Try to start each

**Divergent**
- What are new ways to view and express challenges?
- Throw all the spaghetti on the plate
- Restate to maximize success

**Convergent**
- Highlight/dot your favorite
- Combine, choose the more critical
- Hang on to the others
Solution Finding

**Divergent**
- What are success factors?
- Generate alternatives
- Look from many angles
- Connect what doesn’t seem to connect
- What is an interesting way to fix it?
- How do we measure it?

**Convergent**
- Choose the most interesting?
- The most exciting, promising?
- What are ways to strengthen their potential?
- What are the best of the lot?

**Action/Acceptance Finding**

**Divergent**
- What are the assistance/objection/resource needs?
- What are creative ways to harness these?
- How do we get everyone doing it for the good of the patient?

**Convergent**
- What are the ingredients for action?
- What can be agreed on here and finished up in 2 weeks?
- Short and intermediate actions?
- Who is key that needs to be sold, what is the mode of selling?
- Who is doing what when?

The output of the session evolved into action steps needed for success. The list was started by asking the reverse-question: “What will cause our solutions to fail?” Then creating actions items that would counter them.

_I’m not afraid to die. I just don’t want to be there when it happens…_ Woody Allen

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Courtesy of Duke Rohe (drohe@att.net)

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