

# Team-Based Problem Solving

Tom Logsdon

“Beyond Brainstorming: Enhancing Your Productivity by Learning to Formulate Simple, Creative Solutions” is the expanded version of Tom Logsdon’s presentation to the PMSEP. An aerospace engineer retired from Rockwell, Logsdon has just finished his 28th book, *Understanding Orbital Mechanics*, for John Wiley & Sons.

Logsdon offered two ways of solving a problem, sprinkled with examples from his own experience and those of innovative organizations. His theory is

that teams can learn to be more creative through shared workshop experiences.

**Break the problem apart and put it back together again.** “Simple, well-formulated problems lead to practical, creative solutions,” Logsdon says. He suggests ordinary language, and pointed questions. For example, “Our company was once a fun place to work. But with the recent cutbacks, the morale has plummeted. How can we make Widgets International a fun place to work again?” He suggests a brain-

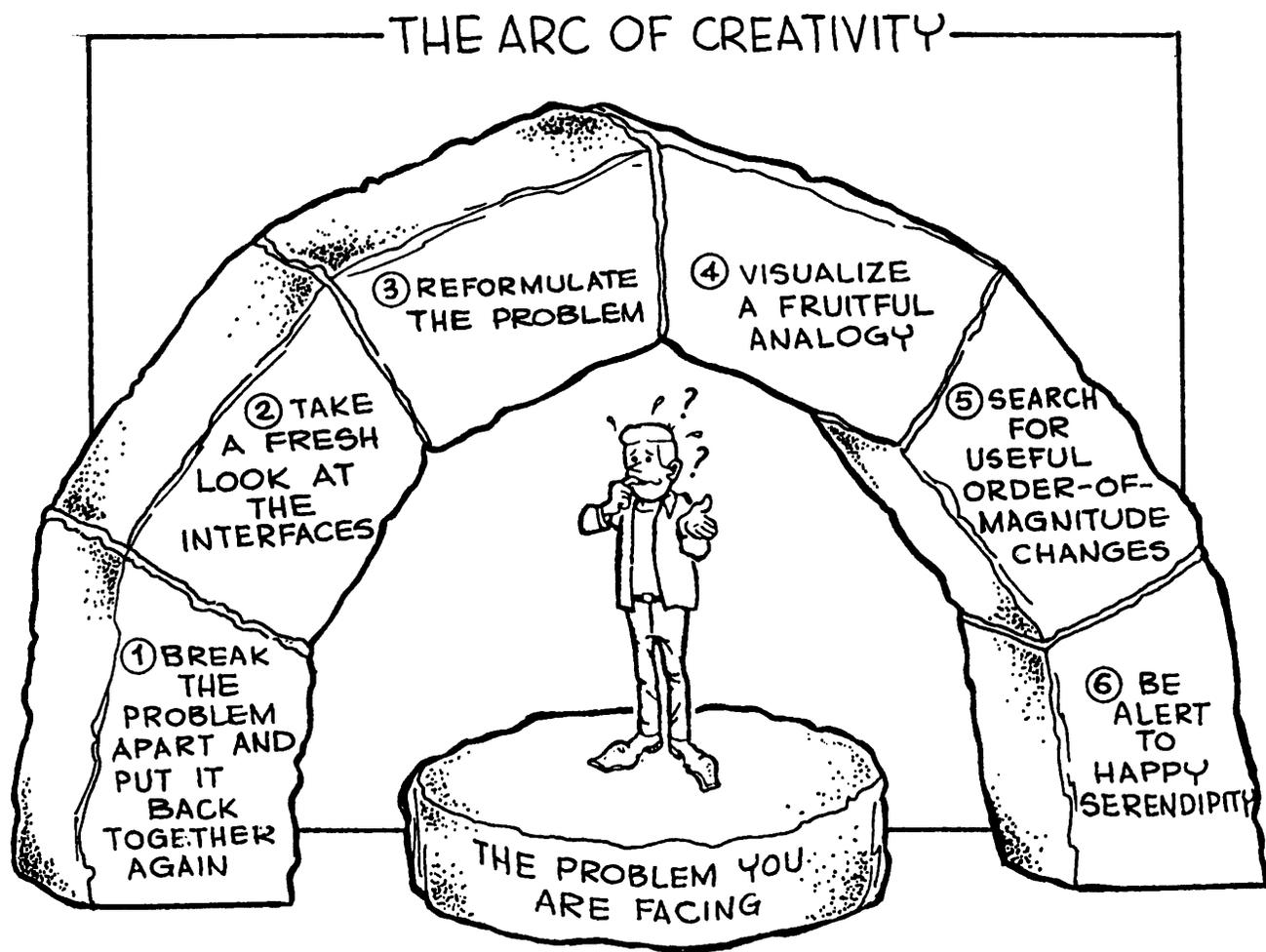


Figure 16. The Arc of Creativity

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storming technique known as “Mind Mapping” with balloon diagrams, where one idea leads to another and clusters are formed around major components of the problem. Leave room at the bottom of the page to list solutions or action items that occur to you as you expand your mind mapping.

**Take a fresh look at the interfaces.** An interface emerges when two dissimilar things come together. They often appear in the mind mapping balloons. Logsdon suggests using the bottom of the page again for making notes on how you might solve the problem by moving, modifying or deleting one or more of the interfaces in the balloon diagram, or employing an interface for a useful purpose. For example, Gillette moved the interface between blade and handle of the old straight razor and came up with the safety razor with disposable blades. Bic came along later and deleted the interface, rejoining blade and handle once again, making the whole thing disposable. The Denver Boot modified the interface between scofflaw and police by eliminating the impound lot. And Henry Ford used an interface for a useful purpose by specifying the exact size of boards used in crates by suppliers. He even asked them to drill holes at precise distances along the boards so they could be taken apart and installed as floorboards in his Model T, a car even his workers could thus afford.

Logsdon has several techniques he explains in longer sessions. You can reformulate the problem, for

example. After mind mapping and interface analysis, the problem can clarify itself and become easier to solve. You can also “visualize a fruitful analogy” like Eli Whitney did with the cotton gin after he saw a kitten sticking its paw through a picket fence. Or, you could “search for useful order-of-magnitude changes” such as graphical techniques in a cookbook, replacing the drawn out directions with pictographs. Finally, he suggests, “Be alert to happy serendipity.” Ben Franklin may have proposed daylight savings time as a way for Paris shopkeepers to save candles, but the idea did not catch on until the turn of this century when people realized that family outdoor activities and sporting events could fill a summer evening quite happily.

More detail on these and other brainstorming techniques and problem-solving strategies can be found in Tom Logsdon’s popular book, *Breaking Through* (Addison-Wesley, 1993). A new mass-market edition is in production, to be issued as *The Midas Touch: Polishing Your Simple, Creative Solutions So Everything You Touched Turns to Pure Gold*.

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