

## ● DYNAMIC BALANCE: THE HEART OF CREATIVE THINKING AND THE CREATIVE PROBLEM SOLVING PROCESS

For many years, actually decades, a diamond shape has graphically represented the steps of the CPS process (see Figure 3.1). Why? The diamond shape represents the balanced application of divergent and convergent thinking that runs throughout the process. See Figure 3.2 on page 58. Where the diamond opens up illustrates **divergent thinking**, a broad search for many diverse and novel alternatives. By stretching your mind, you avoid the risk of limiting yourself to what is already familiar to you. You deliberately extend your thinking in a way that allows you to make new discoveries. Where the diamond closes down represents convergent thinking. Here you select or synthesize the most promising options generated during the divergent phase. **Convergent thinking** is a focused and affirmative evaluation of alternatives. In CPS, we intentionally separate these two forms of thinking into a dynamic balance of first one and then the other. This balance is core to effective thinking. As Ruggiero (1998) described:

For decades psychologists of thinking stressed that the mind has two distinctive phases—the production phase and the judgment phase—that complement each other during thinking. They stressed further that proficiency in thinking requires the mastery of all approaches appropriate to each phase and skill in moving back and forth between them. (p. 5)

Figure 3.1 Creative Problem Solving: The Thinking Skills Model

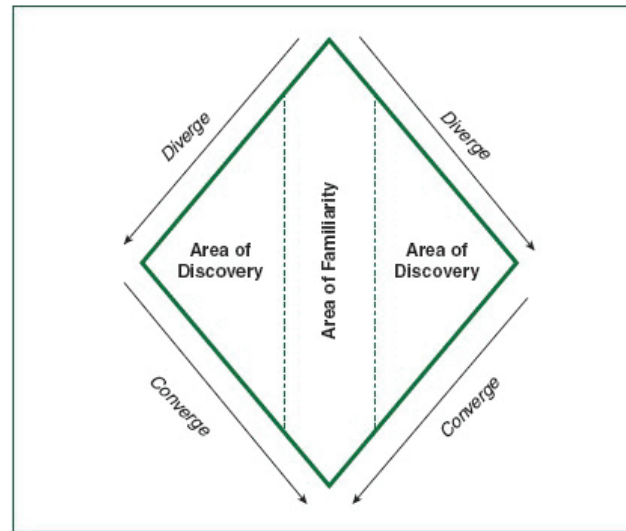


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Using the concept of dynamic balance is one way to make your own thinking or the problem-solving efforts of a team immediately more effective. Why? Often when you have an idea, the very next thought that comes to mind is a negative judgment regarding that idea, a reason not to go forward with it. “I’ll be laughed at.” “It will never work.” “So-and-so will never buy it.” “The resources don’t exist to make it happen.” As a result, ideas are often scrapped, and the search for a new idea begins all over again. This kind of start-and-stop thinking mixes divergent and convergent thinking. An alternative is generated and then quickly judged. This is not an efficient way of thinking, especially when you need to use creative thinking. Mixing convergent thinking with divergent thinking is one sure way to see that unique thoughts will be tossed aside. Also, you run the risk of simply stopping at the

first alternative that appears to be satisfactory, which may be far from the best alternative, much like hastily ordering vanilla ice cream in a plain cone only to discover afterward that, if you had looked further down the menu, you could have had your favorite ice cream treat—chocolate chip cookie dough in a homemade waffle cone.

Figure 3.2 Dynamic Balance: The Core to the Creative Problem Solving Process



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You often see the inefficiency of start-and-stop thinking in meetings. Someone—a committee chair, team leader, project manager, administrator—asks whether anyone has ideas for a problem. Another person offers an idea, which is immediately met with criticism. All the reasons why it will not work are quickly identified. Because the initial idea was shot down, the team members now go back to their mental drawing boards to consider other possibilities. However, their thinking is influenced by the exchange that just occurred. People may become overly concerned about how their ideas will be received. There is an awkward silence—ideas are scrutinized internally to the point that they are never shared publicly. This is unfortunate because many worthwhile ideas may never make it to the table.

In the CPS process, you eliminate start-and-stop thinking by separating divergent and convergent thinking in every step. This repetition, contrary to people's first reaction to it, is a more efficient way of thinking. We would suggest that it is more efficient to first lay out all of your options and then take the time to deliberately review and evaluate a full range of alternatives to find the best course of action than to make a snap decision that does not fully satisfy the needs of the situation. Swartz (1987) suggested that the complementary nature of first using creativity to generate options and then employing critical thinking to make choices among alternatives is necessary for good thinking.

Bob Hope, a great American entertainer, employed the dynamic balance between divergent and convergent thinking to develop his comedy monologues. Hope had a staff of writers who would produce his material. They called themselves the Double Cross and Circle Club. The writing team would generate between 200 and 500 jokes for a monologue. Hope would read all of them and place an X (cross) next to the ones he liked. Then he would reread those jokes he liked and make a double X on those he still liked. He would make a final pass through the list of jokes, focusing only on those with a double X, and would circle those that would be performed in front of an audience.

In their study of organizations that have stood the test of time, Collins and Porras (1994) found that successful organizations also find ways to balance divergent and convergent thinking. Their description of the work at Johnson & Johnson provides an example of how dynamic balance works in successful companies:

To this day, Johnson & Johnson consciously encourages branching and pruning. It tries lots of new things, keeps those that work, and quickly discards those that don't. It stimulates variation by fostering a

highly decentralized environment and encourages individual initiative and allows people to experiment with new ideas. At the same time, J&J imposes rigorous selection criteria. Only those experiments that prove to be profitable and that fit with J&J's core ideology get to remain in the company's portfolio of business. (p. 147)

This balance between divergent and convergent thinking is so central to CPS that we have devoted a chapter to the principles that allow individuals to more successfully manage this dynamic balance in thought. [Chapter 5](#) provides a description of specific guidelines individuals and teams can use to enhance both their divergent and convergent thinking skills. However, before leaving this chapter, we wish to specifically explore the kinds of skills that are associated with divergent and convergent thinking.

## ● DIVERGENT THINKING SKILLS: FLUENCY, FLEXIBILITY, ELABORATION, AND ORIGINALITY

Psychologist and early proponent of creativity, J. P. Guilford, was among the first to describe the characteristics of divergent thinking. Guilford (1977) identified four basic characteristics within the operation of divergent thinking that are the generally accepted skill areas in creative thinking today: *fluency* (*getting a large number of ideas or responses*); *flexibility* (*getting variety in kinds or categories of ideas or responses*); *elaboration* (*adding to or developing existing ideas or responses*); and *originality* (*getting new, novel or different ideas or responses*).

The main aim of CPS is to produce novel approaches to problems. Fluency, flexibility, and elaboration improve your ability to think in original ways, which is often needed to get the breakthrough necessary to handle an open-ended problem. Someone who is highly fluent is able to come up with many options when faced with an open-ended problem, and the more thoughts you have, the more likely you are to have an original thought. The value associated with the ability to be a fluent thinker was captured well by the famous Irish playwright George Bernard Shaw when he said, "Few people think more than two or three times a year; I have made an international reputation for myself by thinking once or twice a week." Flexibility ensures that your mind covers the situation from as many different perspectives as possible, which again encourages novel views. Elaboration allows you to find new applications within existing systems, such as the creation of product extensions (i.e., going from individual crackers, to putting two crackers together with a cheese filling, to peanut butter filling). This kind of extended thinking allows you to add new wrinkles to existing ideas.

Are these skills important to success? E. P. Torrance, a pioneering researcher in the field of creativity, conducted a longitudinal study to examine the value of these divergent thinking skills. Torrance assessed the divergent thinking abilities of school-age children and, 22 years later, he examined their achievement levels as adults and found that divergent thinking abilities were significantly correlated with creative achievement (Torrance, 2004).

Are divergent thinking skills important for leaders? A study by Zaccaro, Mumford, Connelly, Marks, and Gilbert (2000) showed that the divergent thinking abilities of 1,800 military officers had the largest positive correlation, among all other variables tested, with complex problem-solving skills. Practically speaking, the ability to generate more diverse options to challenges and opportunities increases your personal power (Karp, 1996). When you come up with only one pathway forward to a situation, this does not allow for any choices, and without choices, your power is limited—you are forced to accept your lot. When you are able to generate two options, you create a choice, but often, these choices are black and white or good and bad. Having two options is not much better than having one. You are forced to pursue one or the other. You enhance your power through the generation of many diverse and original options. Leaders who possess excellent divergent thinking skills empower themselves and others, because the greater number of choices they have, the more likely they are to be successful.

## ● CONVERGENT THINKING SKILLS: EVALUATE AND ENVISION

Convergent thinking is a focused search (Guilford, 1977). In the dynamic balance that occurs within CPS, convergent thinking follows divergent thinking. Therefore, its function is to help you focus on identifying the most promising options. If divergent thinking is done well, there should be many diverse and novel options to be