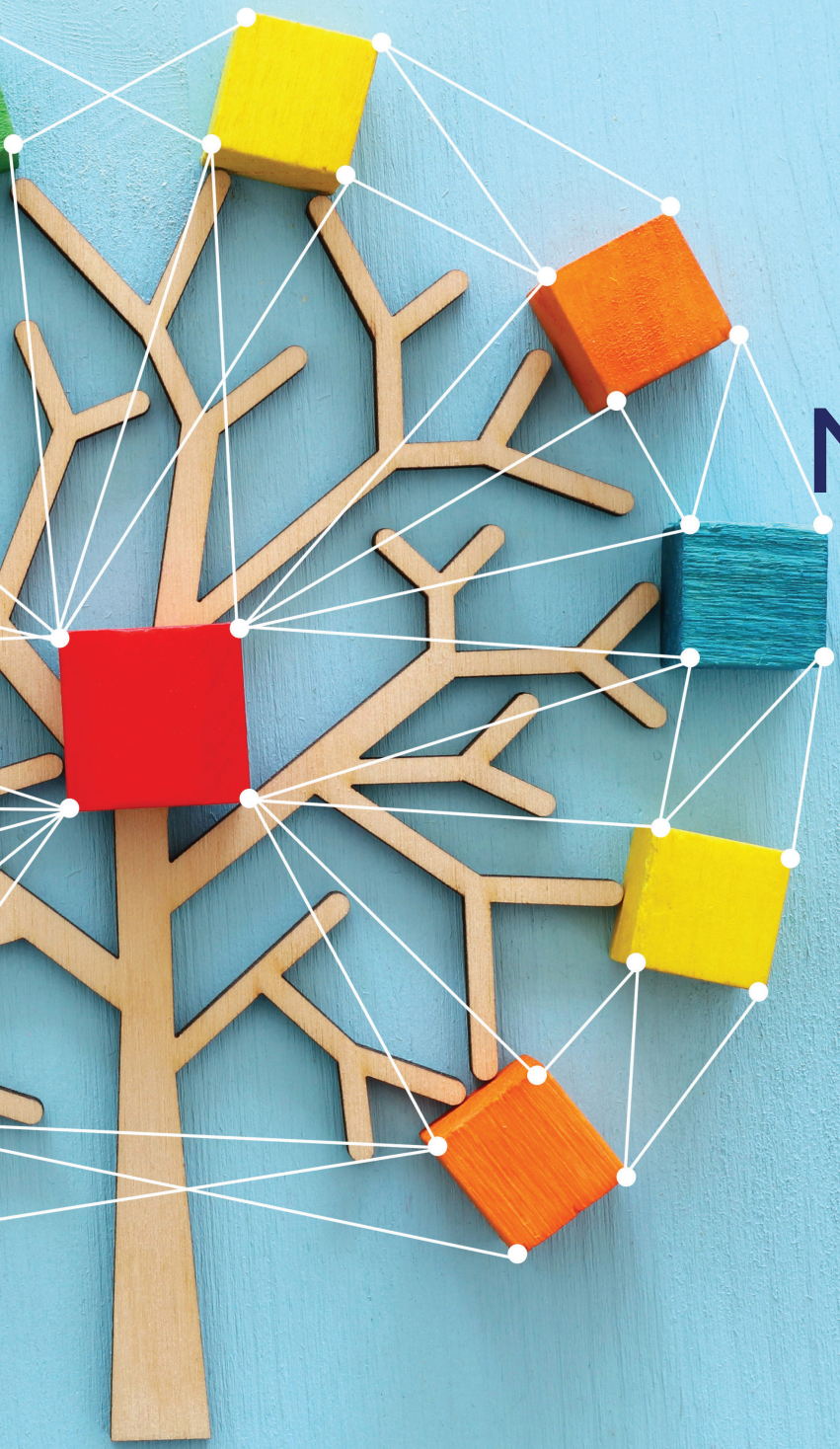
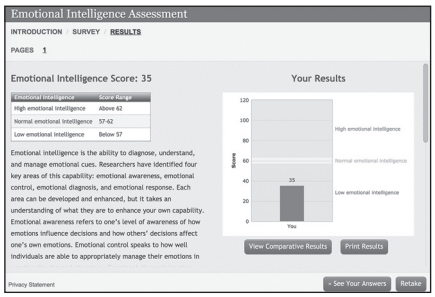
GLOBAL EDITION



Developing Management Skills

TENTH EDITION

David A. Whetten
Kim S. Cameron



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— Student, Kean University

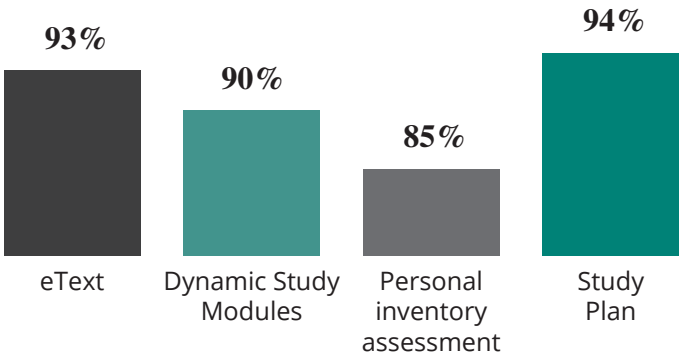

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Table 3.2 Some Constraints on the Analytical Problem-Solving Model

Step	Constraints
1. Define the problem.	• There is seldom consensus as to the definition of the problem.
	• There is often uncertainty as to whose definition will be accepted.
	• Problems are usually defined in terms of the solutions already possessed.
	• Symptoms get confused with the real problem.
	• Confusing information inhibits problem identification.
2. Generate alternative solutions.	• Solution alternatives are usually evaluated one at a time as they are proposed.
	• Few of the possible alternatives are usually known.
	• The first acceptable solution is usually accepted.
	• Alternatives are based on what was successful in the past.
3. Evaluate and select an alternative.	• Limited information about each alternative is usually available.
	• Search for information occurs close to home—in easily accessible places.
	• The type of information available is constrained by factors such as primacy versus recency, extremity versus centrality, expected versus surprising, and correlation versus causation.
	• Gathering information on each alternative is costly.
	• Preferences of which is the best alternative are not always known.
	• Satisfactory solutions, not optimal ones, are usually accepted.
	• Solutions are often selected by oversight or default.
	• Solutions are often implemented before the problem is defined.
4. Implement and follow up on the solution.	• Others' acceptance of the solution is not always forthcoming.
	• Resistance to change is a universal phenomenon.
	• It is not always clear what part of the solution should be monitored or measured in follow-up.
	• Political and organizational processes must be managed in any implementation effort.
	• It may take a long time to implement a solution.

LEARNING

First, most of us misinterpret creativity as being one-dimensional—that is, creativity is limited to generating new ideas. We are often not aware of the multiple strategies available for being creative, so our repertoire is restricted. Second, all of us have developed certain conceptual blocks in our problem-solving activities, and we are largely unaware of these blocks. They inhibit us from solving certain problems effectively. These blocks are largely personal, as opposed to interpersonal or organizational, so skill development is required to overcome them.

In this chapter, we focus primarily on the skills involved in helping you become a better creative problem solver. A large literature exists on how managers and leaders can foster creativity in organizations, but this is not our focus (see for example, Mumford, 2011; Zhou & Shalley, 2008). Rather, we are interested in helping you strengthen and develop your personal skills and expand your repertoire of creative problem-solving alternatives.

Multiple Approaches to Creativity

One of the most sophisticated approaches to creativity identifies four distinct methods for achieving it: imagination, improvement, investment, and incubation. This

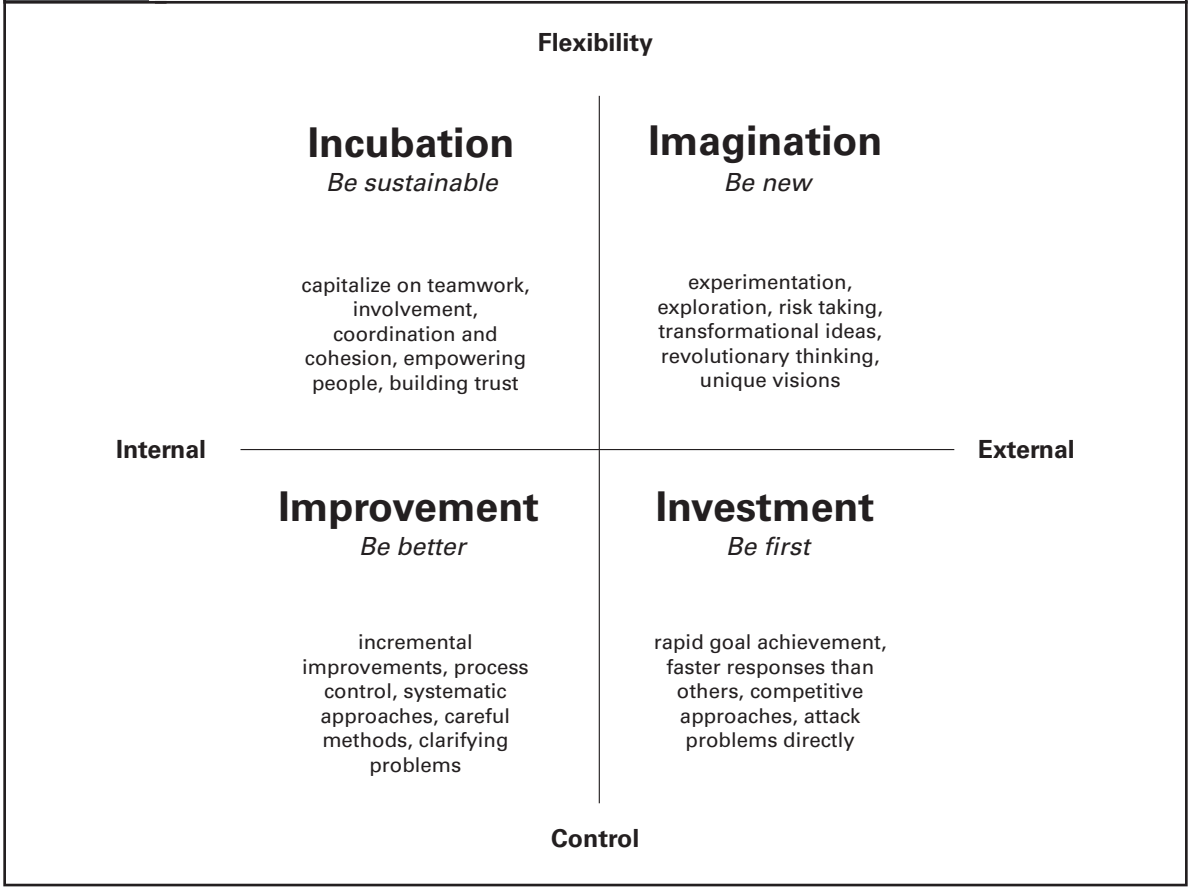
approach is based on the Competing Values Framework (Cameron, et al., 2014), which identifies competing or conflicting dimensions that describe people's attitudes, values, and behaviors. Figure 3.1 describes the four different types of creativity and their relationships. These four types have been developed by our colleague Jeff DeGraff (DeGraff & DeGraff, 2017; DeGraff & Lawrence, 2002).

Achieving creativity through **imagination** refers to the *creation* of new ideas, breakthroughs, and radical approaches to problem-solving. People who pursue creativity in this way tend to be experimenters, speculators, and entrepreneurs, and they define creativity as exploration, new product innovation, or developing unique possibilities. When facing difficult problems in need of problem-solving, their approach is focused on coming up with untested possibilities and unique solutions. These kinds of people—people such as Steve Jobs, Stephen Hawking, and Walt Disney—approach problem-solving by generating radically new ideas and products that create entirely new industries or points of view.

However, people may also achieve creativity through opposite means—that is, by developing incrementally better alternatives, *improving* on what already exists, or clarifying the ambiguity that is associated with the problem. Rather than being revolutionaries and risk-takers, they are systematic, careful, and thorough. Creativity comes by finding ways to improve processes or functions.

An example is Ray Kroc, the visionary behind McDonald's remarkable success. As a salesman in the 1950s, Kroc bought out a restaurant in San Bernardino, California, from the McDonald brothers and, by creatively changing the way hamburgers were made and served, he created the largest food service company in the world. He didn't invent fast food—White Castle and Dairy Queen had long been established—but he changed the processes. Creating a limited, standardized menu; uniform cooking procedures; consistent service quality; clean facilities; and inexpensive food—no matter where in the world you eat—demonstrated

Figure 3.1 Four Types of Creativity



Source: *Adapted from DeGraff & Lawrence, 2002.*

a very different approach to creativity. Instead of breakthrough ideas, Kroc's secret was incremental improvements on existing ideas. This type of creativity is referred to as **improvement**.

A third type of creativity is called **investment**, or the pursuit of rapid goal achievement and *competitiveness*. People who approach creativity in this way meet challenges head-on, adopt a competitive posture, and focus on achieving results faster than others. People achieve creativity by working harder than the competition; exploiting others' weaknesses; and being first to offer a product, service, or idea, even if it is not their own. The advantages of being a "first mover" company are well known.

This kind of creativity is illustrated by Honda president Kiyoshi Kawashima in the "Honda–Yamaha Motorcycle War." Honda became the industry leader in motorcycles in Japan in the 1960s but decided to enter the automobile market in the 1970s. Yamaha saw this as an opportunity to overtake Honda in motorcycle market share in Japan. In public speeches at the beginning of the 1980s, Yamaha president Yoshikazu Koike promised that Yamaha would soon overtake Honda in motorcycle production because of Honda's new focus on automobiles. Honda's president replied: "As long as I am president of this company, we will surrender our number one spot to no one… *Yamaha wo tsubusu*!"—meaning, we will crush (or smash, break, annihilate, or destroy) Yamaha.

In the next year, Honda introduced 81 new models of motorcycles and discontinued 32 models, for a total of 113 changes to its product line. In the following year, Honda introduced 39 additional models and added 18 changes to the 50cc line. Yamaha's sales plummeted 50 percent and the firm endured a loss of 24 billion yen for the year. Yamaha's president conceded: "I would like to end the Honda-Yamaha war.…From now on we will move cautiously and ensure Yamaha's relative position as second to Honda." Approaching creativity through investment—rapid response, competitive maneuvering, and being the first mover—characterized Honda president Kawashima's approach to creativity.

The fourth type of creativity is **incubation**. This refers to an approach to creative activity through teamwork, involvement, and coordination among individuals. Creativity occurs by unlocking the potential that exists in interactions among networks of people. Individuals who approach creativity through incubation encourage people to work together, foster trust and cohesion, and empower others. Creativity arises from a collective mind-set and sharing ideas.

For example, Mahatma Gandhi is probably the only person in modern history who has single-handedly stopped a war. Lone individuals have started wars, but Gandhi was creative enough to stop one. He did so by mobilizing networks of people to pursue a clear vision and set of values. Gandhi would probably have been completely noncreative and ineffective had he not been adept at capitalizing on incubation dynamics. By mobilizing people to march to the sea to make salt, or to burn passes that demarcated ethnic group status, Gandhi was able to engender creative outcomes that had not been considered possible. He was a master at incubation by connecting, involving, and coordinating people.

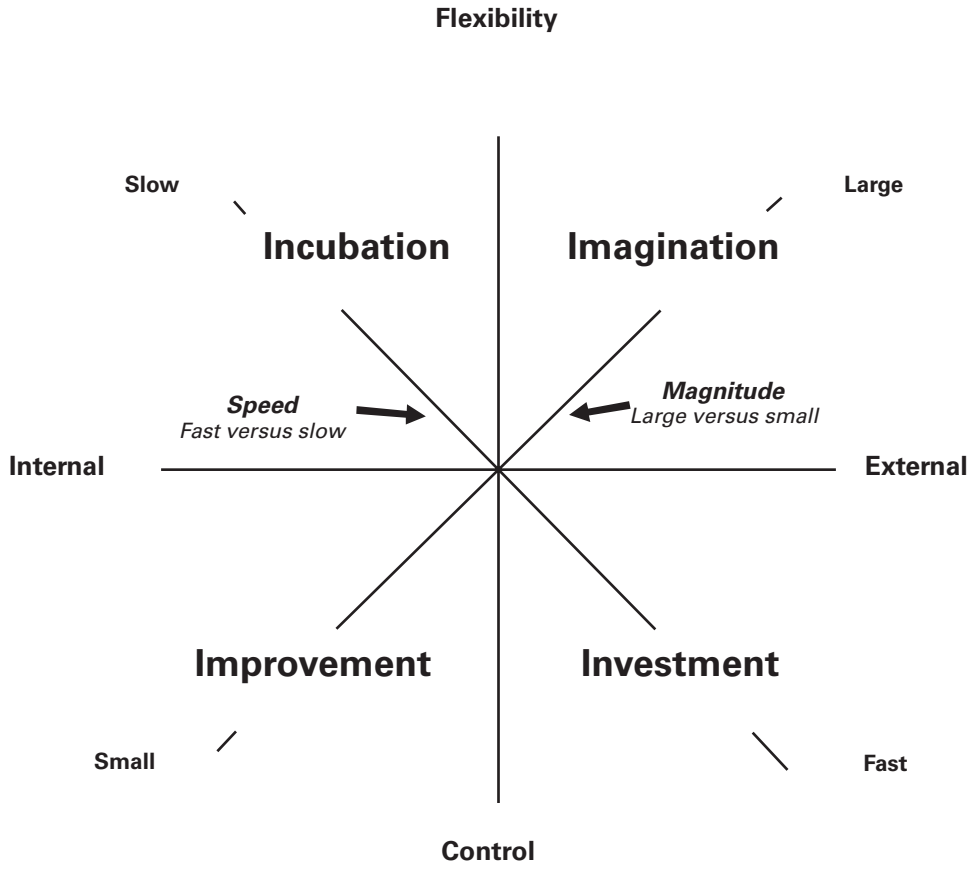
The same can be said for Bill Wilson, the founder of Alcoholics Anonymous, whose 12-step program is the foundation for almost all addiction treatment organizations around the world—gambling addiction, drug addiction, eating disorders, and so on. To cure his own alcoholism, Wilson began meeting with others with the same problem and, over time, developed a very creative way to help himself as well as other people overcome their dependencies. The genius behind Alcoholics Anonymous is the creativity that emerges when human interactions are facilitated and encouraged.

Figure 3.2 helps put these four types of creativity into perspective. You will note that imagination and improvement emphasize opposite approaches to creativity. They differ in the *magnitude* of the creative ideas being pursued. Imagination focuses on new, revolutionary solutions to problems. Improvement focuses on small, incremental solutions. Investment and incubation are also contradictory and opposing in their approach to creativity. They differ in *speed* of response. Investment focuses on fast, competitive responses to problems, whereas incubation emphasizes more developmental and deliberate responses.

It is important to point out that no one approach to creativity is best. Different circumstances call for different approaches. For example, Ray Kroc and McDonald's would not have been successful with an imagination strategy (revolutionary change), and Walt Disney would not have been effective with an incubation strategy (group consensus). Kawashima at Honda could not afford to wait for an incubation strategy (slow, developmental change); likewise, it would have made no sense for Gandhi to approach creativity using investment (a competitive approach). Figure 3.3 lists a number of circumstances in which each of these four approaches to creativity would be most effective.

This figure shows that imagination is the most appropriate approach to creativity when breakthroughs are needed and when original ideas are necessary—*being new*. The improvement approach is most appropriate when incremental changes or tightening up processes

Figure 3.2 Key Dimensions of Four Types of Creativity



Source: *Adapted from DeGraff & Lawrence, 2002.*

are necessary—*being better*. The investment approach is most appropriate when quick responses and goal achievement take priority—*being first*. And the incubation approach is most appropriate when collective effort and involvement of others are important—*being sustainable*.

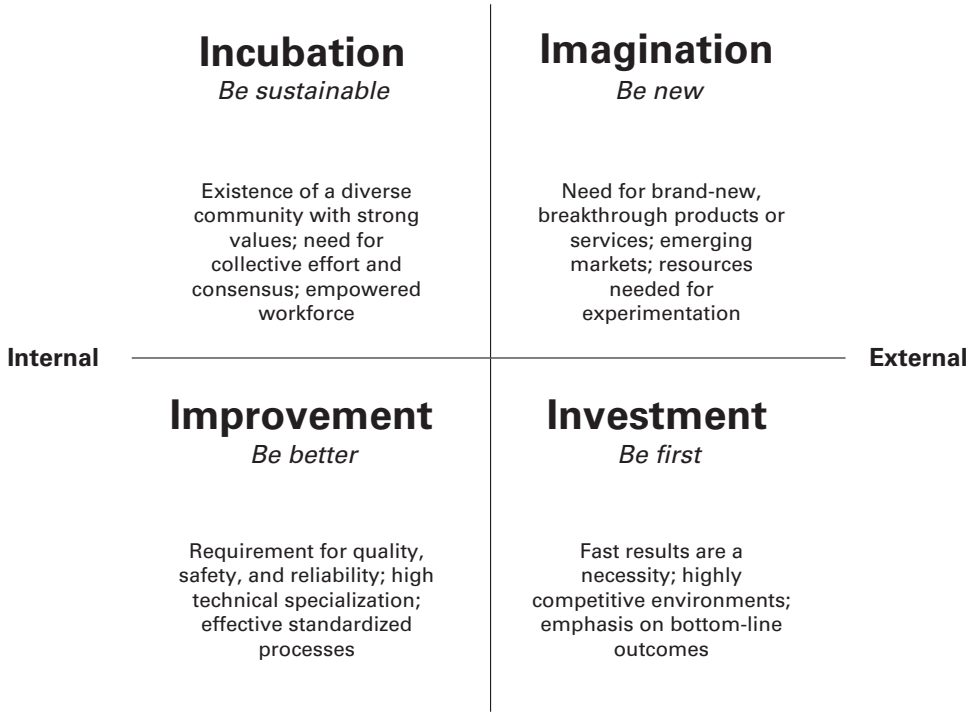
The Creativity Assessment survey that you completed in the Assessment section helps identify your own preferences regarding these different approaches to creativity. You were able to create a profile showing the extent to which you are inclined toward imagination, improvement, investment, or incubation as you approach problems calling for creativity. Your profile will help you determine which kinds of problems you are inclined to solve when creativity is required. Of course, having a preference is not the same as having ability or possessing competence in a certain approach, so the remainder of this chapter will help with your creative competence development.

MyLab Management Watch it!
If your instructor has assigned this activity, go to www.pearson.com/mylab/management to complete the video exercise.

Conceptual Blocks

The trouble is, each of these different approaches to creativity can be inhibited. That is, in addition to being unaware of the multiple ways in which we can be creative, most of us have difficulty solving problems creatively because of the presence of **conceptual blocks**. Conceptual blocks are mental obstacles that constrain the way problems are defined, and they can inhibit us

Figure 3.3 Examples of Situations in Which Each Approach Is Effective



SOURCE: *Adapted from DeGraff & Lawrence, 2002.*

LEARNING i

from being effective in any of the four types of creativity. Conceptual blocks limit the number of alternative solutions that people think about (Adams, 2001; Tan & Parnell, 2013). Every individual has conceptual blocks, but some people have more numerous and more intense blocks than others. These blocks are largely unrecognized or unconscious, so the only way individuals can be made aware of them is to be confronted with problems that are unsolvable because of them. Conceptual blocks result largely from the thinking processes that problem solvers use when facing problems. Everyone develops some conceptual blocks over time. In fact, we need some of them to cope with everyday life. Here's why.

At every moment, each of us is bombarded with far more information than we can possibly absorb. For example, you are probably not conscious right now of the temperature of the room, the color of your skin, the level of illumination overhead, or how your toes feel in your shoes. All of this information is available to you and is being processed by your brain, but you have tuned out some things and focused on others. Over time, you must develop the habit of mentally filtering out some of the information to which you are exposed; otherwise, information overload would drive you crazy. These filtering habits eventually become conceptual habits, or blocks. Though you are not conscious of them, they inhibit you from registering some kinds of information and, therefore, from solving certain kinds of problems.

In this section, we focus on problems that require creative rather than analytical solutions. We introduce some tools and techniques that help overcome conceptual blocks and unlock problem-solving creativity. First consider these two examples that illustrate creative problem-solving and breaking through conceptual blocks.

PERCY SPENCER'S MAGNETRON

During World War II, the British developed one of the best-kept military secrets of the war, a special radar detector based on a device called a magnetron. This radar was credited with turning the tide of battle in the war between Britain and Germany and helping the British withstand Hitler's blitzkrieg. In 1940, Raytheon was one of several U.S. firms invited to produce magnetrons for the war effort.

The workings of magnetrons were not well understood, even by sophisticated physicists. Even among the firms that made magnetrons, few understood what made them work. A magnetron was tested, in those early days, by holding a neon tube next to it. If the neon tube got bright enough, the magnetron tube passed the test. In the process of conducting the test, the hands of the scientist holding the neon tube got warm. It was this phenomenon that led to a major creative breakthrough that eventually transformed lifestyles throughout the world.

At the end of the war, the market for radar essentially dried up, and most firms stopped producing magnetrons. At Raytheon, however, a scientist named Percy Spencer had been fooling around with magnetrons, trying to think of alternative uses for the devices. He believed that magnetrons could be used to cook food by using the heat produced in the neon tube. But Raytheon was in the defense business. Next to its two prize products—the Hawk and Sparrow missiles—cooking devices seemed odd and out of place. Spencer was convinced that Raytheon should continue to produce magnetrons, even though production costs were prohibitively high. But Raytheon had lost money on the devices, and now there was no available market for magnetrons. The consumer product Spencer had in mind did not fit within the bounds of Raytheon's business.

As it turned out, Spencer's solution to Raytheon's problem produced the microwave oven and a revolution in cooking methods throughout the world. Later, we will analyze several problem-solving techniques illustrated by Spencer's creative triumph.

SPENCE SILVER'S GLUE

A second example of creative problem-solving began with Spence Silver's assignment to work on a temporary project team within the 3M company. The team was searching for new adhesives, so Silver obtained some material from AMD Inc. that had potential for a new polymer-based adhesive. He described one of his experiments in this way: "In the course of this exploration, I tried an experiment with one of the monomers in which I wanted to see what would happen if I put a lot of it into the reaction mixture. Before, we had used amounts that would correspond to conventional wisdom" (Nayak & Ketteringham, 1986).

The result was a substance that failed all the conventional 3M tests for adhesives. It didn't stick. It preferred its own molecules to the molecules of any other substance. It was more cohesive than adhesive. It sort of "hung around without making a commitment." It was a "now-it-works, now-it-doesn't" kind of glue.

For five years, Silver went from department to department within the company trying to find someone interested in using his newly found substance in a product. Silver had found a solution; he just couldn't find a problem to solve with it. Predictably, 3M showed little interest. The company's mission was to make adhesives that adhered ever more tightly. The ultimate adhesive was one that formed an unbreakable bond, not one that formed a temporary bond.

After four years no progess had been made in identifying any application for the glue. But Silver was still convinced that his substance was good for something. He just didn't know what. As it turned out, Silver's solution spawned a multibillion-dollar business for 3M—in a unique product called Post-it Notes.

These two examples are positive illustrations of how solving a problem in a unique way can lead to phenomenal business success. To understand how to solve problems creatively, however, we must first consider the blocks that inhibit creativity.

THE FOUR TYPES OF CONCEPTUAL BLOCKS

Table 3.3 summarizes four types of conceptual blocks that inhibit creative problem-solving. Each is discussed and illustrated with problems or exercises. We encourage you to complete the exercises and solve the problems as you read the chapter, because doing so will help you become aware of your own conceptual blocks. Later, we shall discuss in more detail how you can overcome those blocks.

Constancy

One type of conceptual block occurs because individuals become wedded to one way of looking at a problem or using one approach to define, describe, or solve it. It is easy to see why **constancy** is common in problem-solving. Being constant, or consistent, is a highly valued attribute for most of us. We like to appear at least moderately consistent in our approach to life, and constancy is often associated with maturity, honesty, and even intelligence. People who lack constancy are often viewed as untrustworthy, peculiar, or airheaded.

Some prominent psychologists theorize, in fact, that a need for constancy is the primary motivator of human behavior (Festinger, 1957; Guadagno & Cialdini, 2010; Heider, 1946; Newcomb, 1954). Many psychological studies have shown that once individuals take a stand or employ a particular approach to a problem, they are highly likely to pursue that same course without deviation in the future (see Cialdini, 2008, for multiple examples).