

Chapter 2

THE CREATIVITY SOLUTION

As a scientist, I make conclusions based on research. As an Asian, however, I'm superstitious. For example, I avoid the number four, which indicates the Chinese character death—many buildings in East Asia have no fourth floor for this reason. I never look into a broken mirror. I don't understand how fortune cookies work, but I trust that they do.

I started studying creativity because I had a life-changing experience with a fortuneteller, whom I also believe in, along with most Asians. One day an old man who had a long, grey beard and was dressed in a white Korean traditional costume and carrying a cane approached me. He told me that I'd have two very important children—because he knew I had two birthmarks in a certain area of my body—and that my children would contribute to the betterment of the world. I felt that he wasn't just looking into a crystal ball; he was reading my soul!

It wasn't a simple premonition. First, it meant I'd have at least two children. But until the mysterious man spoke to me, having children hadn't even crossed my mind. Second, for his premonition to come true, I'd have to be a good parent. I knew nothing about that, other than how my parents raised me. I started researching parenting so that I'd have the necessary skills to be a good parent. I read hundreds of books on both Korean and American parenting, which included many contradictory theories, ideas, and techniques. Eventually I began exploring the findings in scientific research studies in order to provide clear guidance for myself. Through this research, I learned a lot about intelligence, which led to my study of Nobel laureates because I discovered they contributed to the betterment of the world. This led to my deeper study of creativity because I found high intelligence isn't necessary to win a Nobel Prize or accomplish innovation, but creativity *is* necessary. Intelligence and creativity aren't the same.¹ My first study of a Nobel laureate was Marie Curie.

In time, I did have two children, just like the fortuneteller's premonition.

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My goal was to raise them to be creative, so that they might have a chance of making great contributions to the world. This is when I encountered the challenges of teaching creativity. The actual act of teaching creativity isn't particularly difficult, but there's a lot of misinformation about what and how to teach children in order for them to become creative. Misinformation about creativity must be dispelled because it causes people to waste time on ineffective methods or prevents them from even trying. For example, if people believed the world was flat, they'd not dare to venture out to sea to discover unknown lands. If children believe that creativity is only a flash of brilliance from gods or by geniuses, or if they believe only artists are creative, they might not even try to explore their own creative potential.

Over the years I weeded through the overwhelming amount of misinformation as well as valuable knowledge. In the process, I've developed models to understand and teach creativity based on science, instead of traditions, superstitions, or false presumptions. Before I present the creative CATs, we should explore what I mean by "creativity" and "innovation."

WHAT IS CREATIVITY?

In the Western world, many people think that creativity is primarily artistic in nature—like painting a landscape, choreographing a dance, or writing a poem—and the terms *creative* and *artistic* are often used interchangeably.² In the Eastern world, however, creativity is considered to be scientific discoveries or inventions such as electricity, antibiotics, or the computer.³ Overall, though, creativity is far broader than either of these interpretations. Creativity is making or doing something *unique* and *useful*. It is a *process* that leads to innovation in *all* fields. Creativity occurs in all social endeavors, including the arts, sciences, mathematics, engineering, medicine, business, leadership, parenting, teaching, and sports.⁴

WHAT IS INNOVATION?

Innovation is a *unique* and *useful* concept, intellectual property, invention, product, or service that results from a creative process. I say *unique* instead of *new* because nothing under the sun is really new. Every product is devel-

oped as an extension or a combination of existing ideas.⁵ For example, Apple creates and releases the latest model of its iPhone, which actually consists of *existing* technologies combined in a unique way. This is innovation. Then, Samsung analyzes the iPhone and quickly synthesizes/transforms and sells a different-model phone that's better in some aspects. This is *also* innovation. The degree of uniqueness in both cases depends on whom you ask.

People may come up with many *unique* ideas, but unless they're applied in some way, they remain just ideas in the frustrated dreamer's head and are thus not *useful*, and not an innovation. An innovation must be unique *and* useful. For example, when an artist with great technical skills creates a realistic scene or replicates a popular style, it is *useful*, but is not unique. When an artist develops a technique for using materials differently or infusing emotions or ideas into a visible artifact, it is *unique*. An artist who can do both can become an innovator.

Innovation can be either tangible or intangible. Steve Jobs' creation of the iPhone and Georgia O'Keeffe's paintings are *tangible* innovations. Nelson Mandela's democracy for South Africa and Albert Einstein's relativity theory are *intangible* innovations. Both tangible and intangible must be unique and useful to others and/or the society to be considered an innovation.

*Innovation ranges from small i to Big I.*⁶ *Small i* innovation examples are easy to come by. Their impact on the society is small, and they are created in everyday life, often without knowing it. When a chef puts together different ingredients and make a unique dish without following a recipe—a delicious dish that many customers appreciate (and thus useful)—is a *small i* example.

Big I Innovation occurs when an innovation affects the society in a big way. *Big I* Innovation examples include Nobel laureates' contributions to human knowledge and capability, such as Curie's discovery of radioactivity (1903); Einstein's discovery of the photoelectric effect (1921); and Mandela's ending of South Africa's Apartheid and leading a peaceful revolution to democracy (1993).

Both *small i* and *Big I* are important, yet the relative impact (Im) of an innovation can be determined, where $Im = T$ (time in years) $\times N$ (number of others affected). For example, if my unique creativity-development model is useful for 100 people's parenting or teaching for ten years, the impact

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of the innovation is 1,000 (*small i*). If the model is useful for 1,000,000 people for ten years, the impact of the innovation is 10,000,000 (*Big I*).

CREATIVE CATS (CLIMATES, ATTITUDES, AND THINKING SKILLS)

Let's explore my creative CATs model to better understand the nature of creativity and, more important, how to best teach it to children. One of the reasons for the name *CATs* is that creativity is literally related to *cats*. More creative people identify as “cat people” rather than as “dog people,” or they choose to own cats rather than dogs.⁷ Perhaps creative people are too busy creating or traveling to take a dog out for a walk? Perhaps they're curious or independent like cats? (But hopefully not to the degree in the saying “curiosity killed the cat”—phrases like this actually kill curiosity; instead, say, “curiosity makes good cats,” because curious cats are actually good at testing limits and determining what's harmful *or* beneficial.)

Another reason for the name is that CATs stands for three practical steps for innovation. They are: cultivate creative *Climates* (step 1); nurture creative *Attitudes* (step 2); and develop creative *Thinking skills* (step 3). As Figure 2.1 shows, the *climate* is represented by the circle that surrounds the cactus, which nurtures the *attitude* represented at the heart of the cactus, which in turn develops the *thinking skills* represented at the mind of the cactus, which results in *innovation*, represented by the flowers of the cactus.

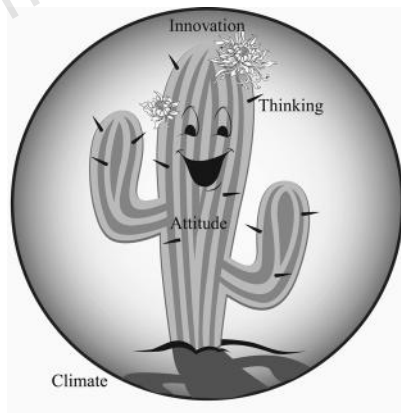


Figure 2.1. Creative CATs
(Climates, Attitudes, and Thinking Skills)

Step 1. The 4S Climates (Soil, Sun, Storm, and Space)

Surprisingly, the most critical part of a creative process is the *climate*, rather than the creation or the creator.⁸ Fortunately, climates are the part parents and educators have the most control over. I use the term “climates” instead

of “environments” because they’re broader than the external, physical surroundings. Climates include both physical *and* psychological surroundings and conditions that influence individuals (including relationships, location, time period, etc.). The climates influence how individuals think and behave, including encouraging their creative potential (which promotes their emotional and psychological health⁹) or discouraging it.¹⁰ Climates also include sources of feedback or evaluation for a final creation, which determines whether the creation is worthwhile. Only when the creation is recognized and valued by others/the society does it become an innovation.¹¹

Diverse soil, bright sun, fierce storms, and free space are necessary for plants to grow strong and flourish. Similarly, 4S climates, first soil, second sun, third storm, and finally space climates in this order, are necessary for children’s creativity to grow strong and flourish, as figure 2.2 shows.

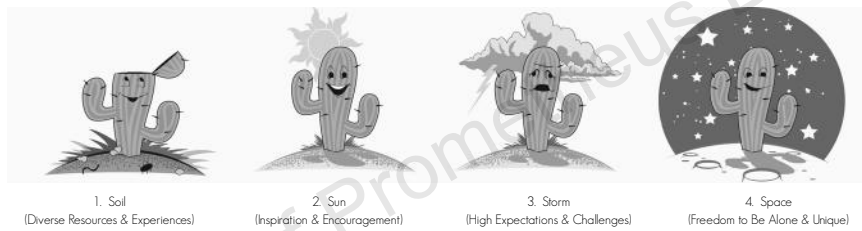


Figure 2.2. 4S Climates (Soil, Sun, Storm, and Space)

The Diverse Soil Climate

First, the diverse soil climate provides individuals with *diverse resources and experiences*. “Resources” includes exposure and access to all kinds of diversity—things, people, knowledge, and views (rather than just financial resources). The soil climate also teaches individuals how to access and grow new resources instead of just consuming what’s already available. Diverse soil is vital for plants’ growth; one element can’t compensate for another’s deficiency. For individuals, an open-minded climate leads to thought-provoking experiences and conflicting and complex views from insiders and outsiders. Plants have greater fruiting success if their location enables cross-pollination with other plants. Likewise, resourceful individuals become more successful if their climate enables face-to-face interactions and collaborations with others.

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When the soil climate initially nurtures young individuals' soil attitudes, they can encounter diverse subjects. The diverse soil climate is discussed in detail in chapter 3.

The Bright Sun Climate

Second, after the diverse soil climate, the bright sun climate *inspires and encourages* individuals. Sunlight attracts plants; inspirational figures and events attract individuals' optimistic curiosity. This nurtures their love of reading and learning. The sun shines on the *entire* world—even the most remote corner. Likewise, inspiring figures and events show the big picture and unlimited possibilities to individuals and draw them out of limited situations. Just as the sun gives plants warmth and energy, the sun climate gives individuals encouragement and excitement by inspiring and *playfully* introducing them to new subjects.

When the sun climate initially nurtures young individuals' sun attitudes, they can find a specific curiosity, preference, or interest (CPI) in a subject. The bright sun climate is discussed in detail in chapter 4.

The Fierce Storm Climate

Third, after the diverse soil and bright sun climates, the fierce storm climate provides individuals with *high expectations and challenges*. Gardeners set high expectations for plants to produce their maximum blossoms/fruits. Likewise, the storm climate sets high expectations for individuals to utilize their maximum potential. Gardeners prune early and consistently to prevent plants from growing out of control. Similarly, the storm climate early and consistently provides *both* positive and negative feedback to instill self-discipline and self-efficacy in individuals. Heavy winds and rain help plants grow stronger, just as challenges and adversity help individuals develop competitive skills to apply to increasingly difficult challenges.

When the storm climate initially nurtures young individuals' storm attitudes, they can develop useful expertise in a subject, which turns their CPI into a passion; only *after* they are truly good at something can it become a passion! The fierce storm climate is discussed in detail in chapter 5.

The Free Space Climate

Finally, after the diverse soil, bright sun, and fierce storm climates, the free space climate provides individuals with *freedom to be alone and unique*. Gardeners expect and respect that each plant will be different. In a similar vein, the space climate expects and respects that individuals will develop according to their own CPI. Gardeners provide plants with time and space to grow to their own shape and full size, and the space climate provides individuals with time and space to develop their uniqueness and grow to their full potential.

When the space climate initially nurtures young individuals' space attitudes, they can develop unique ideas based on their expertise. The free space climate is discussed in detail in chapter 6.

Step 2. The 4S Attitudes (Soil, Sun, Storm, and Space)

Attitudes—the ways individuals *react* to the climates—are also important. The soil climate introduces individuals to diverse people, cultures, religions, and opinions, but they must be *curious* or interested in some of the experiences in order to benefit from them. Two individuals exposed to the same climate may react differently, depending on their creative attitudes. Creative attitudes are individuals' characteristics, beliefs, and visions that compel them to create, which enable their creative-thinking skills.¹² I use the term “attitudes” instead of “personality” because attitudes are more *teachable* than personality is. About 40 to 55 percent of adult personality is inherited, but attitudes are less genetic and more changeable than personality is.¹³

The twenty-seven 4S attitudes (five soil, six sun, eight storm, and eight space attitudes) mirror the 4S climates. Attitudes are mainly influenced or changed by climates. This means that parents and educators can nurture children's creative attitudes by cultivating the 4S climates. Not every innovator possesses all twenty-seven of the attitudes, but the greatest innovators do. These attitudes predict innovation in *all* fields.¹⁴ However, each of the attitudes might seem negative to some people.¹⁵ Whether, why, and how these attitudes enable innovators' creative-thinking skills are discussed in chapters 3 (soil), 4 (sun), 5 (storm), and 6 (space) in detail.

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The Five Soil Attitudes

The five soil attitudes are characterized by individuals' open and complex minds that best utilize resources. The soil attitudes help individuals become *resourceful cross-pollinators*, which enables their creative-thinking skills.

- (1) The *open-minded* attitude involves considering others' views that are different from one's own. It's developed by early diverse experiences including exposure to other cultures. But open-minded individuals might seem "distracted" to some people.
- (2) Having the *bicultural* attitude means embracing new cultures while maintaining one's own cultural identity. It's developed by *learning* from other cultures, and it matures by seeking diverse mentors. But bicultural individuals might seem "rootless" to some people.
- (3) The *mentored* attitude comes from being mutually interested in and taught by experts and their constructive criticism. It's developed by individuals' trusting others and being *teachable*. Mentors share their expertise with mentees and guide them in developing mentees' own. Mentors and bicultural experiences help individuals understand complex views. But mentored individuals might seem "channeled" to some people.
- (4) The *complexity-seeking* attitude is characterized by embracing equivocal and conflicting views. It's refined by dealing with or solving increasingly complex situations/problems, and it helps find and analyze unique opportunities. But complexity-seeking individuals might seem "overcomplicated" to some people.
- (5) Having the *resourceful* attitude means finding and using all kinds of resources/opportunities effectively and efficiently to accomplish goals. It's developed by individuals' learning to prepare for or overcome financial, physical, or cultural challenges. But resourceful individuals might seem "opportunistic" to some people.

The Six Sun Attitudes

The six sun attitudes are characterized by individuals' self-inspiration and curiosity that sustain energy. Their sun attitudes help them become *curious optimists*, which enables creative-thinking skills.

- (1) Having the *optimistic* attitude means seeing positive outcomes regardless of existing circumstances. It starts with positive attachment to others, which helps individuals confidently expand their world. But optimistic individuals might seem “unrealistic” to some people.
- (2) The *big-picture-thinking* attitude comes from being inspired by others' words, deeds, or values and seeing the big picture beyond constraints. It draws individuals out of limited situations to pursue unlimited possibilities. Their optimistic and big-picture-thinking attitudes direct curiosity out toward the big world. But big-picture-thinking individuals might seem “dreamy” to some people.
- (3) Having the *curious* attitude means thinking in a childlike manner and insatiably seeking new information. It leads individuals to unexpected opportunities, and it instills a desire to pursue them. But curious individuals might seem “annoying” to some people.
- (4) Having the *spontaneous* attitude means being flexible and immediately acting on new ideas and opportunities. It starts with open-mindedness and curiosity, and it leads to playful approaches to experiences. But spontaneous individuals might seem “impulsive” to some people.
- (5) Having the *playful* attitude means approaching situations in exploratory ways and seeing the lighter side of challenges. This helps sustain individuals' energy over time. But playful individuals might seem “mischievous” to some people.
- (6) The *energetic* attitude comes from being motivated from within, regardless of external circumstances (by intense curiosity, self-inspiration, or other reasons). It starts with optimistic curiosity, and it sustains individuals' enthusiasm over time. But energetic individuals might seem “hyper” to some people.

The Eight Storm Attitudes

The eight storm attitudes are characterized by individuals' overcoming challenges and striving for goals. Their storm attitudes help them become *resilient hard workers*, which enables creative-thinking skills.

- (1) Having the *independent* attitude means thinking and acting freely from others' influence, support, and control. It starts with thinking and doing things alone, and it helps individuals control their own behaviors. But independent individuals might seem "aloof" to some people.
- (2) The *self-disciplined* attitude comes from individuals' motivating and controlling themselves to accomplish goals. It starts by adapting to existing expectations/limitations, and it develops by structuring their own situations while avoiding distractions and addictions. But self-disciplined individuals might seem "compulsive" to some people.
- (3) Having the *diligent* attitude means exerting meticulous, steady attention to build skills to accomplish clear goals. It starts with self-discipline, and it results in skills necessary to pursue the goals. But diligent individuals might seem like "workaholics" to some people.
- (4) The *self-efficacious* attitude comes from being confident to perform well on a *specific* task based on previous successful experiences. Self-efficacy (true confidence) across multiple areas builds individuals' resilience. But self-efficacious individuals might seem "arrogant" to some people.
- (5) The *resilient* attitude comes from recovering and thriving after challenges or failures. It starts with self-efficacy and dedication to clear goals, and it helps develop skills that minimize the impact of setbacks or risks. But resilient individuals might seem "combative" to some people.
- (6) Having the *risk-taking* attitude means leaving secure situations in pursuit of uncertain rewards. It starts with optimistic self-efficacy, and it develops as individuals plan for various outcomes. This helps them keep trying. But risk-taking individuals might seem "reckless" to some people.

- (7) Having the *persistent* attitude means continuously striving for goals with commitment regardless of immediate rewards. It starts with individuals' self-efficacy and resilience, and it strengthens as they make progress toward their goals. But persistent individuals might seem "obsessive" to some people.
- (8) Having the *uncertainty-accepting* attitude means acting without complete information regardless of potential challenges or outcomes. It helps individuals dare to attempt the impossible. But uncertainty-accepting individuals might seem "fearless" to some people.

The Eight Space Attitudes

The eight space attitudes are characterized by individuals' discovering and expressing their own uniqueness. Their space attitudes help them become *defiant dreamers*, which enables creative-thinking skills.

- (1) Having the *emotional* attitude means recognizing, understanding, and expressing individuals' own feelings. It helps them communicate their own state of mind, and it develops empathy for others. But emotional individuals might seem "unstable" to some people.
- (2) Having the *compassionate* attitude means internally empathizing with others and externalizing it by helping them in meaningful ways. It starts with understanding others and their situations and seeing the big picture. It helps individuals self-reflect about others' experiences and the big world. But compassionate individuals might seem "overreaching" to some people.
- (3) Having the *self-reflective* attitude means enjoying solitude to understand the essence of individuals' own and others' experiences and views. It starts with enjoying time alone to work on goals, and it is facilitated by connecting with nature. It helps them be objective about their feelings and make their own choices autonomously. But self-reflective individuals might seem "withdrawn" to some people.
- (4) Having the *autonomous* attitude means being independently and intrinsically motivated to pursue goals. It starts when individuals set

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- their own goals, and it matures as they enjoy achieving them. But autonomous individuals might seem “uncontrolled” to some people.
- (5) Having the *daydreaming* attitude means sustaining unrealistic but goal-oriented thoughts while awake. It helps individuals disregard existing norms in their extemporaneous thoughts but capture useable aspects of the thoughts. But daydreaming individuals might seem “delusional” to some people.
 - (6) Having the *nonconforming* attitude means choosing to differ from mainstream patterns of thought and behavior. It develops by feeling comfortable being an outsider. It helps individuals reach their uniqueness beyond existing norms. But nonconforming individuals might seem “wild” to some people.
 - (7) Having the *gender-bias-free* attitude means rejecting stereotypes based on gender. It develops by using views and strengths from different genders. It opens the door to intellectual defiance across physical, financial, professional, and ethnic biases. But gender-bias-free individuals might seem “gender-free” to some people.
 - (8) Having the *defiant* attitude means courageously rejecting or changing existing norms, values, traditions, hierarchies, or authorities in order to pursue individuals’ goals. Their defiance breaks the existing constraints, which enables them to see/do what others can’t. But defiant individuals might seem “rebellious” to some people.

INNOVATORS’ ATTITUDES: THE CACTUS AMONG US

Cacti exemplify attitudes of innovators and how they seem to others. People often admire both the cacti’s ability to thrive in a desert and their flowers’ vibrant colors. But people often do not want to be near cacti because their thorns (while necessary for the plants’ survival) are painful to touch! Likewise, most people admire the achievements of innovators, but they often do not love the innovators themselves—especially when they are growing up—because their attitudes seem negative.

Soil attitudes—both cacti and innovators are resourceful cross-pollinators. Cacti learn to adapt to scarce resources. They spread roots widely to capture miniscule moisture near the sandy surface and store water in porous or hollow trunks. They minimize water loss by opening stomata

and blooming in cooler temperatures at night. Likewise, innovators learn to adapt to scarce resources by developing skills to seek out and find new resources to support their CPI. Cacti's sharp spines protect them from greedy predators but also provide protection for insects and birds that enrich their ecosystem. Cacti cluster together for protection against desert hardships. Likewise, innovators cross-pollinate with mentors and other experts to achieve innovation.

Sun attitudes—both cacti and innovators are curious optimists. Cacti enjoy the sunny side of life year-round. They optimistically draw curiosity and energy from the sun with their entire body and then multiply in sandy soil that other plants can't tolerate. Their vibrant, optimistic explosions of colorful blossoms transform an otherwise-bleak desert landscape into a rainbow of life, hope, and beauty. Likewise, innovators' optimism and insatiable curiosity turn challenges into opportunities and then innovation, which energizes themselves and others.

Storm attitudes—both cacti and innovators are resilient hard workers. Cacti become resilient by overcoming flash floods, lightning storms, fierce winds, dust devils, and locus swarms. They persistently protect trunks and roots with prickly spines and grow back when damaged. Likewise, by building self-efficacy, innovators withstand others' doubts and rejections and take risks to pursue their goals. Their resilience helps them consider setbacks and adversities as learning opportunities and overcome their flaws, weaknesses, and failures.

Space attitudes—both cacti and innovators are defiant dreamers. Cacti don't want to grow in flowerbeds with other plants and are content in a hot, dry desert. Nevertheless, cacti are compassionate oasis in the desert. From great distances, they guide insects, small animals, and thirsty travelers to shelter, food, and water stored in edible trunks. Likewise, innovators defy the crowd to pursue their goals and achieve what others can't even imagine. Their compassion to improve others' lives benefits the world and inspires future generations of innovators.

Step 3. ION Thinking Skills (Inbox, Outbox, and Newbox)

The 4S attitudes enable individuals' creative-thinking skills. Three ION thinking skills—inbox, outbox, and newbox—occur during the creative process, Apple-tree Creative Process (ACP). Inbox thinking is narrow and

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deep (inside the box) to gain or evaluate knowledge and skills; outbox thinking is quick and broad (outside the box) to imagine diverse possibilities; and newbox thinking combines elements of inbox and outbox thinking and transforms them into a new creation (new box). The soil and storm attitudes enable individuals' *useful* inbox and newbox thinking. The sun and space attitudes enable individuals' *unique* outbox and newbox thinking.

Inbox Thinking

Inbox thinking includes traditional ways of accomplishing tasks or choosing the right answer. Yet well-developed inbox thinking is essential for developing *expertise*—mastering a specific subject by understanding and applying knowledge and skills.¹⁶ Expertise requires individuals to memorize, comprehend, and *apply* knowledge and skills. Inbox thinking also includes critical-thinking skills: analyzing and evaluating ideas that are generated later during outbox thinking. Inbox thinking works like a zoom lens that helps individuals zoom in on narrow knowledge and skills to look closely at details or evaluate them, which ensures usefulness of an idea or a creation.

Outbox Thinking

Outbox thinking is divergent or outside-the-box thinking that seeks non-conforming ideas. It generates fluent (*many spontaneously*), flexible (*different angles or kinds of*), and original (*novel*) ideas. Outbox thinking benefits from a readily accessible reservoir of expertise. It works like a wide-angle lens that helps individuals take a broad field of view and imagine many novel approaches to a problem or an opportunity, which ensures uniqueness of an idea or a creation.

Newbox Thinking

Newbox thinking combines elements of inbox and outbox thinking. It uses both the zoom and wide-angle lenses to uniquely combine/synthesize unrelated ideas and then usefully refine/transform the synthesized into a creation, which ensures both uniqueness and usefulness of the creation. Finally, newbox thinking promotes the creation so that it can be recognized as an innovation by others/the society.

4S Climates → 4S Attitudes → ION Thinking Skills

The 4S climates nurture the 4S attitudes in individuals so that they can apply ION thinking skills to accomplish innovation, as table 2.1 shows. Thus, innovation is dependent on individuals' creative climates, attitudes, and thinking skills (CATs), and it can be learned and practiced.¹⁷ This is contrary to the common belief from both the East and the West that creativity is only a flash of brilliance from gods, geniuses, or artists.¹⁸

*Table 2.1. Relationships within the Creative CATs
(Climates, Attitudes, and Thinking Skills)*

CATs 4S	Climates (Climates facilitate individuals' initial creativity development)	Attitudes: Nurtured by Climates	Thinking Skills: Enabled by Attitudes
Soil	Diverse resources and experiences (help individuals encounter diverse subjects)	Open-minded, bicultural, mentored, complexity-seeking, and resourceful	<i>Useful</i> inbox and newbox thinking
Sun	Inspiration and encouragement (help individuals identify a specific CPI in a subject)	Optimistic, big-picture-thinking, curious, spontaneous, playful, and energetic	<i>Unique</i> outbox and newbox thinking
Storm	High expectations and challenges (help individuals develop <i>useful</i> expertise, which turns the CPI into a passion)	Independent, self-disciplined, diligent, self-efficacious, resilient, risk-taking, persistent, and uncertainty-accepting	<i>Useful</i> inbox and newbox thinking
Space	Freedom to be alone and unique (helps individuals develop <i>unique</i> ideas based on the expertise)	Emotional, compassionate, self-reflective, autonomous, day-dreaming, nonconforming, gender-bias-free, and defiant	<i>Unique</i> outbox and newbox thinking

CATS, SO WHAT? LET'S CULTIVATE THE 4S CLIMATES FIRST

Within the three steps of cultivating the 4S climates, nurturing the 4S attitudes, and applying the ION thinking skills, the first and the most critical

step is to cultivate the 4S climates. Climates determine whether a creative idea or product becomes an innovation or nothing or a failure.¹⁹ For example, I've studied an inventor who landed a job right after college with the most well-known high-tech company in Korea. Despite the fact that the company wanted to design innovative products, he was slammed for presenting unique ideas. He was told that his ideas were *nonsense*. However, he moved to America, where a company hired and promoted him because of his "nonsense" ideas. He later patented his ideas and became a vice president of another high-tech company. This was fortunate for America, but it was a loss for Korea due to its un-creative climate.

Climates also either encourage or discourage individuals' creativity development.²⁰ I've studied a child prodigy who was the focus of media attention since he was five.²¹ At nine, he was admitted to a university's physics department. However, because his growth has been planned only around advancing his knowledge and skills in un-creative climates, although he's gained a lot of useful knowledge, he hasn't created anything unique. Unless he leaves the un-creative climate, I'm afraid that he'll never become an innovator.

Whether a prodigy or not, all individuals are born with creative potential, but their creative thinking depends on what's left over after their creativity is stifled or "bonsaied" by their climates. Their creativity is bonsaied by home climates first,²² and then by school climates,²³ which are the most critical climates for individuals' creativity development. *Creativity is a gift, but it can be a curse* for individuals who are in un-creative climates (including test-centric climates).²⁴ They are scolded or punished for their creative attitudes and thinking.²⁵ This is because many parents and educators see children's creative attitudes as negative.²⁶ Some *believe* they value creativity, but in fact their actions are found to *devalue* it.²⁷ For example, they often see the conforming attitude as indicative of children's creativity and the *nonconforming* or defiant attitude as negative.²⁸

While many parents and educators were staring only at a cactus's thorns, parents and teachers of innovators saw the cactus for its strength, its uniqueness, and its buds for potentially colorful blossoms. They cultivated creative climates and saw the positive aspects of children's 4S attitudes. They encouraged them to use their attitudes for applying ION thinking skills to achieve innovation, which eventually changed history. In this book, you will meet teachers such as Jost Winteler (for Einstein) at

Aarau; Imogene Hill (for Jobs) at Monta Loma; Reverend Cecil Harris (for Mandela) at Clarkebury; and Elizabeth Willis (for O’Keeffe) at Chatham, in addition to these innovators’ parents. In my case also, without my teachers, especially Mr. Soon-Hyun Cho, I’d probably be trapped in a smelly sweatshop—making socks all day—like all the other girls from my village.

Creativity has the power to transform the good to the best, and history has shown that it only takes a few parents or educators to make striking advances for humankind. If parents and educators learn to cultivate the 4S climates that nurture children’s 4S attitudes at home and in school—rather than fostering un-creative climates that bonsai children’s creative potential—they can greatly increase future innovation.

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