A Structure for Imaginative Problem-Solving

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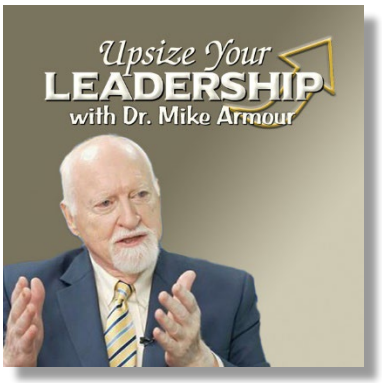

In last week's episode, we talked about maximizing creativity in problem-solving and in developing imaginative breakthroughs. We dissected the process which Walt Disney used in his studios to produce these kinds of outcomes.

If you've not heard that episode, I recommend that you visit UpsizeYourLeadership.com, find the program in the Episodes archive, and become familiar with Disney's method. He designed it so that discrete mental functions, each vital to the creative process, could make their optimal input to a given creative endeavor.

He did so by isolating various phases of the creative effort, so that each was given protected space in which to do its work, protected from interruption caused by ideas bleeding over from other phases. That may seem a bit bizarre, I know. But when you listen to the July 14 episode, you'll realize that it's not bizarre at all. In fact, it's a simple concept to grasp and implement.

Today, I'm taking up the work of another man who saw the value of structuring decision-making so that key stages of the process were given protected space. His approach is a bit more complex than Disney's. But again, it's simple to understand and easy to implement. If his technique is new to you, today's podcast will give you an invaluable tool to draw on as you Upsize Your Leadership.

Anyone in a management or executive position has problem-solving responsibilities. To put it another way, managers and executives are expected to develop solutions. Creative solutions. Innovative solutions. Solutions to thorny issues.

Some people just seem to have a natural knack for that. Others struggle to be innovative or imaginative. But we can all employ techniques and methods that enhance our native creativity and imagination.

Maximizing your creativity is a matter of controlling which circuitry in the brain you activate at specific points in the creative process. That sounds rather technical and esoteric, I know. But as we saw when we examined Disney's creative process last week, it's actually reasonably simple and straightforward.

To understand the methodology which I'm mapping for you today, we should first note how the thinking process unfolds. Some portions of the brain are really good at generating ideas. Others are very good at critical assessments. Still others excel at converting abstract ideas into concrete realities. Certain parts of the brain specialize in logic and analysis. Other portions are highly attuned to feelings and intuitions.

The problem is, they all operate in their own unique manner. And when we try to tap into several of them simultaneously, the differences in how they function begin interfering with one another. As a result, none of these regions of the brain does its very best work when all of them are vying for attention. And sometimes the interference becomes so pronounced that the creative effort is stifled altogether.

To illustrate, picture a situation in which your boss tasks you with revamping the company's marketing program. You are handed a list of top management's concerns with the current program. Your job is to find innovative and imaginative ways to overcome these concerns and lead to marketing breakthroughs. How do you tackle your assignment?

Assuming that you are like most of us, you move pretty quickly to building a list of ideas. You capture them one by one, perhaps using a word processor or a spreadsheet. Or maybe you dictate them into a cell phone. Suddenly, an idea pops to mind which is genuinely intriguing. With most of us, here's what happens next. We immediately start evaluating the idea. Is it truly practical? Is anyone else doing this? How much would this cost? Could we really afford the price tag? Will this give us an adequate return on investment?

We might even start making some side notes, capturing thoughts about how we might implement the idea. What resources we might draw on. Possible branding names.

Meanwhile, that next great idea which was poised just outside our conscious awareness is ready to present itself. But there is so much activity underway at the conscious level, that this new idea is crowded out. It can't make its way into the conversation. And thus, it's lost.

In other words, we have taken what last week's podcast called a scattergun approach to being creative. We've dashed from generating ideas to designing implementation to critiquing the entire concept, all in rapid-fire fashion. This is what's wrong with that.

The brain is a very efficient machine. But the vast majority of its work is done in the unconscious mind, outside of conscious awareness. The consensus among neuroscientists is that 90-95% of the brain's activity occurs at the unconscious level. At any given moment, therefore, we are aware of only the tiniest portion of what's going on inside our head.

We can bring much of this 95% into the conscious mind so that we can think about it or reflect on it. For example, our entire life's story, every face which we can put with a name, key dates in our life, every movie that has impressed us, every bit of jargon which we ever learned – they all reside in the unconscious mind. But there is a threshold of awareness which they must cross before we can utilize them at the conscious level. And this process is not necessarily immediate.

For instance, how many times have you had trouble recalling someone's name. You've not truly forgotten it. It's stored in long-term memory banks deep in the unconscious mind. Consequently, it takes effort – and time –to retrieve it. We've all known the awkwardness of running into someone for the first time in years, perhaps decades. We recognize the face, but try as we might, we can't put a name with it. The name stays stubbornly on the other side of the threshold

of awareness. How long will it be before we are able to match face and name in our memory banks? It sometimes seems like an eternity.

Thus, while the brain is very efficient, it's not necessarily fast in performing certain vital functions, one of which is creativity.

Now, let's return to that task which you were assigned to design a breakthrough marketing program. When we left that scene, you were in the middle of a scattergun approach to creativity. Note how much of it relied almost exclusively on conscious-mind activity. Compiling lists. Critiquing possibilities. Sketching initial thoughts about implementation. All good things to do – at the right time. But for the moment, they are premature.

In situations like this, the unconscious mind may have some great ideas, but it can't get them into the mix. The conscious mind is being so overworked that it has no more capacity for what the unconscious mind has to offer.

You see, the unconscious mind is capable of tracking millions of bits of data simultaneously. Right now, it's regulating your heart rhythm. Your breathing rate. Your skin temperature. The dilation of your eyes. And every other bodily function. And it's doing so effortlessly.

By contrast, your conscious mind has a finite bandwidth. It can only track about seven streams of information simultaneously before becoming overwhelmed. That's why, when someone recites a string of numbers for you to remember, you manage the first four or five easily enough. But once the string extends beyond eight or nine numbers, you start struggling to recall the very first ones. The new inputs are crowding them out of your limited bandwidth.

So, back to your creativity exercise, all of that listing and categorizing and analyzing and evaluating has filled the conscious mind with noise. It can't hear the promptings of the unconscious mind, much less have room for any creative ideas which may be bubbling up from the unconscious.

What's needed is a creative process in which the conscious mind rigorously limits the number of things which it simultaneously tracks so that it does not overtax its bandwidth. In turn, by precluding cognitive overload, the conscious mind has the wherewithal to be more receptive to thoughts and ideas which bubble up from the unconscious mind.

We can borrow one technique which accomplishes this task from a physician and noted intellectual from the Isle of Malta. His name was Edward de Bono. He died only two years ago, having spent much of his distinguished international career promoting better methods of thinking through complex geopolitical issues. He was a prolific author, who wrote 85 books. The best-known of them is *6 Thinking Hats*, and from its pages I'm adapting the method which I'm sharing with you today.

The book derives its name from de Bono's suggestion that we break problem-solving into six discrete modules, if you would. (My word, not his.) These modules mutually support each other, but are individually quite distinct from one another. The basic concept behind his methodology is that we tackle the problem one module at a time. Moreover, at any moment in the problem-solving process, we limit our attention only to the current module.

For those who were part of last week's podcast, this sounds vaguely familiar. It's similar to the three discrete phases that Disney used in his approach. De Bono's technique, however, takes into account factors which Disney's method did not. You will see that as we proceed.

To distinguish the individual modules, De Bono could have given each one a unique name. But instead, he chose to identify them by color. The colors were blue, white, green, yellow, black, and red. Then he added a clever dimension.

Last week and again this week, I've mentioned the challenge that we have of avoiding what I call a scatter-gun approach to problem-solving. With both Disney's method and de Bono's, it's helpful to have some means of checking our tendency to slip into scatter-gunning. They both therefore chose an ever-present, visual reminder of where attention should be presently riveted.

Disney accomplished this with space. The rooms for dreaming, implementing, and critiquing were not only physically separate, they were each laid out and lit in a distinct fashion dictated by how the room was used in his process.

De Bono opted to achieve this same effect by playing off the universal human practice of wearing different types of hats for different types of functions. He identified each of the six colored modules with a hat of the same color. This then permits a facilitator to move a problem-solving discussion to a different module by simply asking everyone to put on a hat of a particular color.

The hats can be literal or figurative. That is, we can actually give people six different color hats to swap out as the problem-solving moves forward. Or we can simply picture ourselves and everyone else around the table wearing a hat of a given color.

The truth is, doing this with six physical hats per person gets quite clumsy and distracting, so that's rarely done. The norm is to utilize figurative hats. However, in training exercises, I've been known to give each participant six hats in the respective colors as a means of reinforcing the methodology.

The hats fall into two categories. Two of them – the blue and the white one – are auxiliaries to the thinking process itself. The other four are stages within the thinking process. Since the Blue and White hats are less germane to my purposes today than the other four, let's deal with them quickly, then focus more fully on the rest.

And let me add that de Bono's technique is equally useful for both personal and group decision-making. Keep that in mind as we continue, because I'm going to discuss the method assuming a group setting.

Let me start with the Blue hat. It's reminiscent of a policeman's cap, which is appropriate, since Blue-hat activity polices the rest of the process to keep us on task and on mission. The facilitator, for example, may regularly put on a blue hat to get discussions back on track. We are also in a Blue-hat phase when the group is setting procedures for the meeting, agreeing on timelines for various parts of the meeting, or establishing ground rules for discussion of a given topic.

Next, the White hat. Whenever we seek solutions or breakthroughs, we may need certain data, certain background information, certain documentation of existing issues. In essence, we need a white paper to which we can refer. Accordingly, when we are involved in gathering

informational resources, we are wearing a White hat. White hat activity also includes gathering any physical items which we will need for the conduct if the meeting.

For effective problem solving, the White hat phase also serves to clarify a critical question, namely, how should we state the underlying challenge which we want to overcome? De Bono's method breaks down and loses effectiveness unless everyone is agreed at the outset as to what specific problem the group is addressing.

The White hat obviously comes into play early in our creative process. But it has a recurring role to play in the process itself. The White hat is concerned with facts, with clear, convincing data. As the creative phase proceeds and lots of ideas are on the table, some may rest on untested assumptions. We may need to do a White hat exercise to substantiate them. For the most part, however, the Blue and White hats are not integral elements in the actual problem-solving process.

The process itself gets underway when we don the Green hat. Think of the Green hat as the place that new ideas grow. They are like green sprouts popping out of the ground. Green hat activity is closely akin to Disney's Dreamer Room. This is purely a time to generate ideas. Not to critique them. Not to debate their practicality. Not to speculate about their acceptance. We are simply compiling ideas.

In group settings, it's wise to set fixed time periods for the individual phases (that's a Blue-hat function). When time is up for the Green-hat phase, we put on a Blue hat and decide which of these ideas to process further. This does not mean that we are dismissing the others. We are simply setting the priority with which we will explore ideas which emerged from the Green-hat discussion.

Next, we put on a Yellow hat. Associate it with putting sunshine on the idea under consideration, putting it in its best light. What are the benefits of this idea? What advantages does it give us? You can also think of the yellow hard hat of a construction worker, because in the Yellow-hat phase, you're going to construct the basic framework within which this idea could be implemented.

Again, at this point in the process, we stick strictly to Yellow-hat roles. No questioning the validity of the underlying idea. No voicing of reservations about whether the implementation is workable. In the Yellow phase, we are fleshing out the idea to see what possibilities it holds – somewhat like the prototype building in Disney's approach

As part of Yellow-hat dialogue, you may recognize that there's additional information which you need, which means putting on the White hat and doing some research. Then you take this White-hat information back into the Yellow-hat discussion and continue to flesh out the idea.

Now time has come for critique. You put on the Black hat. Your role in the Black hat is somewhat like the role of a court magistrate in a black robe. You are passing judgment on what has been brought before you.

While wearing the Black-hat, you probe the Green-hat idea to see if it's truly sound. You dissect the Yellow-hat implementation to determine its feasibility. You look for flaws, drawbacks, or vulnerabilities in the implementation plan. You then weigh these disadvantages against the advantages and benefits compiled in the Yellow-phase discussion. Are the tradeoffs

acceptable? If not, cycle back to the Yellow-hat phase and improve the implementation so that it overcomes the Black-hat concerns.

You can think of the Black-hat exercise as a room filled with people playing the devil's advocate. They are also testing the proposed solution against various adverse scenarios which might arise outside of the group's control. Is the solution resilient enough to withstand that adversity?

One key function of the Black-hat phase is to evaluate the assumptions and presuppositions on which we've based our analysis of the underlying problem and the design of our Yellow-hat solution. Are there valid reasons to question some of the things which have been assumed? If so, more White paper research may be in order.

But our work is not quite finished. De Bono took into consideration an aspect of problem-solving that Disney's scheme did not allow for. De Bono's sixth hat is red. Think of it as the red-dyed alcohol in a thermometer. The Red-hat phase takes the temperature of how we feel emotionally about our solution. This phase is particularly important in group decision-making, say within a self-directed work team.

In the Red-hat phase, everyone answers the question, "To what degree do you feel good about what we've decided? To what degree do you feel bad?" If the responses surface a notable presence of bad feelings, the factors contributing to these emotions should be identified. Then, by circling back to the appropriate previous phases, effort should be made to remove or ameliorate the underlying factor. Until the group as a whole feels reasonably positive about the final product, the implementation may not have sufficient emotional support to be undertaken wisely.

Can you see the wisdom behind this structure? Can you see how it can be far more productive than our typical scatter-gun approach to problem-solving?

In using this method in various settings for nearly 25 years, I've learned that in your Blue-hat phase, you may want to set strict limits on the time devoted to each stage of the process. Otherwise, they can become so drawn out that people lose interest in or enthusiasm for the exercise. Yes, by truncating discussion after a certain period of time, you risk not capturing some idea which might have come up had the dialogue been continued. But if you've allotted proper time to each phase, you will capture enough worthwhile input to come up with a solid solution.

Our goal in problem-solving is not to find the ideal, absolutely very best decision we could possibly reach. Instead, our objective is to find a workable idea with a high likelihood of sustainability and success. Both Disney's method and de Bono's thinking hats are great techniques for finding those kinds of solutions.

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