

A New Way of Thinking:  
Why we need to learn  
*how to think* instead of  
*what to think*

By Mike Vaughan and Rod Walker

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## Executive Summary

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We are wired to learn. Yet most methods used for teaching are based on old patterns of thought and do little to prepare people with the necessary abilities to learn. The professional instructional design community, which should be at the forefront of innovation, often falls into the familiar “teach to the objective” approach, reducing training to linear chunks of information laced with knowledge checks and bound by pre- and post-assessments in hopes that students will eventually “get it.” In some cases, this approach is sufficient, and even appropriate. But it can fail spectacularly in the complex environments of many of today’s jobs. In these complex systems, learning how the pieces fit together is as important (or more important) than the pieces themselves.

Many organizations are jumping onto the technology and gamification bandwagon – adding badges, gifting, virtual goods, and leader boards – to spruce up training. The good news is that these techniques have improved completion rates. However, results often don’t improve: learners may know a bit more, but they are not capable of doing more. The problem is that most training focuses on teaching people *what to think* and falls short in preparing people to learn *how to think* in new and emerging complex situations. And they can leave the training understanding the pieces in isolation – without seeing how they fit together.

The content of this white paper covers:

- **Complexity**
- **What and How Thinking**
- **Core Thinking Practices**
- **Applying the Practices**
- **A New Way of Thinking – Thinking Through the System**

## Complexity

In IBM Corporation’s fourth sweeping survey of CEOs, “Capitalizing on Complexity,” researchers conducted face-to-face conversations with more than 1,500 CEOs from around the world. Their analysis of the interviews identified three themes:

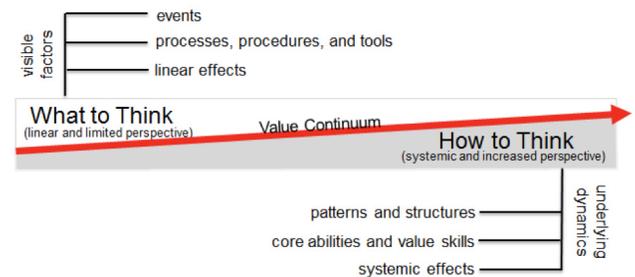
- A rapid escalation of *complexity* is the biggest challenge confronting both public- and private-sector organizations today.
- Less than half of those interviewed feel that their enterprises are equipped to cope effectively with this complexity.
- The single most important leadership competency for enterprises seeking a path through this complexity is *creativity*.<sup>1</sup>

Clearly, the problem of complexity has claimed a spot in the forefront of the business landscape. However, this challenge of dealing with complexity is not some new quest of the tech-savvy twenty-first century. Varying forms of complexity have always confounded success. In the 1920s, through advancements in quantum physics, people clearly saw the interconnectedness of the world. Scientists discovered that multiple particles are linked together in such a way that the measurement of one particle’s quantum state determines the possible quantum states of the other particles. The world has always been complex, yet, things like quantum physics didn’t affect ordinary people. What has changed is that the intrusion of complexity on daily lives is more profound than ever.

## What and How Thinking

There are two main thinking paradigms which equip people to approach the world. The *what-to-think* layer is shaped by discrete events, guided by tasks, and consists of a language that is used to describe parts and causality. The *how-to-think* layer is shaped by

patterns and structures and consists of a language that is used to describe systems and relationships.



Traditional training and education focus on the *what-to-think* layer. If a certain thing happens, you learn how you are supposed to respond. If you want a certain result, you learn what actions to take to achieve it. Developing only this layer allows individuals to function effectively in known and predictable scenarios. In those situations, their performance may be exemplary. But without attending to the deeper layer of *how to think*, these individuals will be unable to translate skills to new, unique, and complex tasks. And as the business changes, they will be less prepared to adjust to those changes, and less able to help lead the necessary changes within their teams.

The reason many organizational training programs consistently fall short of their promises is because they focus on visible factors, such as outcomes, emotional reactions to a situation, or aggregated data. They address these visible factors by overlaying processes, tools, and procedures that reinforce the *what-to-think* mentality. The irony is that when processes and *what-to-think* training methods do not produce a change, the tendency is to add more rules and policies and their accompanying metrics. We expect to be able to create efficient and effective solutions with linear discrete approaches to complex systems. Static rules and policies cannot create necessary change in complex systems. Instead, they run the risk of creating unintended consequences that are worse than the original problem.

Of course, we can't eliminate the use of processes and tools. They are critical to success and safety, and in many cases are entirely appropriate. But to deal with today's increased complexity, we need to move from simply training people *what to think* to also teaching them *how to think*. We've adopted an effective approach called the Core Thinking Practices.

## Core Thinking Practices

The Core Thinking Practices equip employees and teams to discuss simple and complex systems that shape and drive organizations. They are not meant to be followed as a process or applied as a procedure. Instead, the Practices consist of common language, and patterns, guideposts, and tools that all lead to one thing: generation of thoughtful questions. Language gives diverse organizational teams a way to describe a situation. The patterns serve as a lens to examine typical business dynamics, enabling teams to identify causes and forecast possible outcomes. The guideposts help teams avoid unwittingly contributing to the very problems that they're trying to solve. The tools surface biases and incomplete mental models that are often at the root of endless nonproductive discussions or failed efforts.

Each Practice begins with the word seek. We chose this word thoughtfully and with purpose, because it conveys the effort required to enact the Practices. Learners cannot be successful by simply focusing on the plausible, visible factors; they must search deeper to understand the underlying dynamics.

These Practices trigger innate thinking abilities (creative, critical, and systems) to help learners truly understand their decisions and actions. The following table presents the mental shift that occurs as a result of using the Practices.

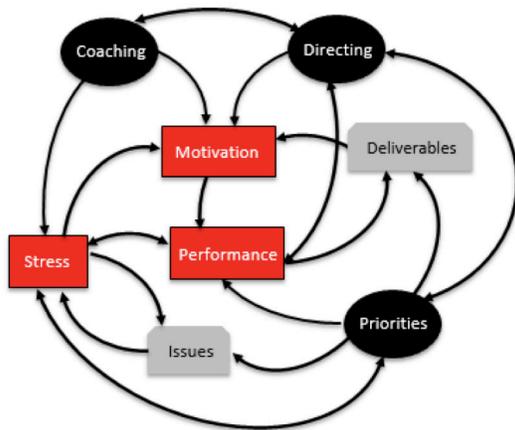
A word of caution: some of the concepts may seem like common-sense ideas. We started this article saying that we are wired to learn and yet most people struggle with it. The same is true of common sense; it isn't so common and it requires thoughtful practice to achieve. Over the course of a lifetime, we can easily become entrenched in our paradigms and lose the ability to see clearly. These Practices help us get beyond those paradigms. Teams and individuals will find it easier to adopt some Practices than others. Just attempting to use them purposefully will provoke deeper thinking and help people begin to make sense of complex ideas and situations.

Each Practice is meant to help individuals and teams shed light on a situation by viewing it from new perspectives. Notice the cycle: as teams learn about the structure, they gain insight into the underlying behavior. This insight leads them to a more systemic view and helps surface limiting beliefs. As teams expose limiting beliefs, they start to see the underlying behaviors at work. From this new perspective, they can then repeat the cycle with a deeper level of understanding. This continuous process of moving through the Practices will improve thinking and increase the value workers bring to the organization.

| Practice                                    | Mental Shift   |
|---|--|
| Seek to understand the big picture.         | Move from a linear mindset to a systemic viewpoint.                  |
| Seek to understand the underlying behavior. | Move from fixating on an event to observing patterns and structures. |
| Seek systemic change.                       | Move from short-term fixes to long-term initiatives.                 |
| Seek to surface limiting beliefs.           | Move from quick conclusions to thoughtful examination.               |
| Seek to evolve a shared vision.             | Move from a limited local viewpoint to a larger perspective.         |

## Applying the Practices

The simple impact map below shows a partial view of the dynamics of human responses to leadership behaviors: in other words, how a manager motivates her team to obtain better performance.



The circles (coaching, directing) represent a few things a leader can control, and the boxes (stress, motivation, performance) represent part of how the team responds. The two lightly colored boxes (issues, deliverables) represent the results produced. Let's run some mental simulations. Morale is down, issues are up, and the team is falling behind on monthly objectives. As the leader, what do you do? Do you step in and tell your team specifically what needs to be done and how to do it (directing)? Or, do you coach your team to higher performance (coaching)? Or do you just increase the pressure on the team to get results (priorities)? What will be the short-term impacts to performance, stress, and motivation? Is that acceptable? And what are the long-term effects?

Even well-intended actions can create undesirable results. Let's say you decide to invest your energy on coaching others. As a result, motivation probably improves, which causes performance to improve. Consequently, many deliverables are accomplished. As more gets done, your team feels good and motivation further improves. But even with the most capable teams, things go wrong from time to time and issues start to surface. As the issues increase,

so does stress, which increases the number of issues and decreases motivation. When you realize these effects, you begin to split your energy between resolving issues and increasing motivation through coaching. This makes sense conceptually, but when your boss calls to express concern that you missed three of your five deliverables, you might decide it is time to take matters into your own hands and start directing others more diligently. This can cause motivation to plummet as the team feels less and less confident of their ability to handle the job – creating the need for even more directing to make up the gap. And they aren't getting the time and help that it takes to improve. They are just following orders and losing confidence, even though their performance might temporarily improve. If you don't understand the dynamics, these actions can cause performance levels to cycle between adequate and unacceptable, with increasing stress and eventual burnout. With these powerful dynamics at work, even the best leadership tools, tips, and tricks are impractical and inadequate.

The Core Thinking Practices push you to explore and understand the underlying dynamics of this scenario. In other words, the very nature of the Practices will force you to explore what is happening beneath the metaphoric waterline. For example, instead of looking at coaching as a skill that has to be performed to build capacity, you explore coaching as one of many levers that can be adjusted to maintain optimal team cohesiveness, morale, and performance. The impact map above provides a visual representation the "system of motivation." There are other levers and nodes that could easily be added to create a more complete picture of the system of motivation.

It is clear from this simple example how there can be important benefits and negatives for any of the approaches. Instead of a formula or a set of prescriptions, such as "be a hands-on manager," "develop your team," "getting results is everything<sup>2</sup>," the right answer is likely to be a blend across these levers. And the appropriate blend is likely to change

over time. Some days, the team really needs more pressure. Sometimes they really need more directing. And sometimes they need more coaching and patience. By understanding the system at work here (and what information to pay attention to), managers are better equipped to make the right tradeoffs at the right time.

## **A New Way of Thinking— Thinking Through the System**

As noted in the IBM study, complexity continues to increase at a rapid pace in today's workplaces. (We all probably already know that, even without a study.) And complex systems can present challenges and difficulties that seem to defy explanation and frequently defeat even the best ideas for improvements. Well-intended actions are met with failure or undesirable unintended consequences, leaving things worse than they were to start with. Peter Senge described one behavior here as "the harder you push, the harder the system pushes back<sup>3</sup>." As a manager, pushing for higher performance could actually cause performance to fall further. Or pushing less and coaching more could cause performance to fall even further, both in the short and the long term. Complex systems act in complex ways.

In dealing with today's complexity, learning the rules, techniques, and procedures is less effective than learning how to see the system that is at work, and learning *how to think* through that system. True understanding is much more important in working with a complex system than a long list of corrective actions. To gain this understanding, we need a new way of thinking. Thinking through the system makes it possible to see what is really driving performance, as well as what parts of the system are holding back progress. Then it is possible to determine which solutions will do the most good (and the least harm). As the world continues to become more complex, these thinking skills are more important than ever.

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## About the Authors

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<sup>1</sup> "Capitalizing on Complexity: Insights from the Global Chief Executive Officer Study," IBM Global Business Services (Somers, NY, 2010), 6.

<sup>2</sup> Or, as might be implied: "I'm sure your replacement can get the results we need here"

<sup>3</sup> The Fifth Discipline, Peter Senge, Revised Edition, 2006, p. 58



Creating great thinkers and leaders

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