

Are you a Right-Brain or Left-Brain Thinker?

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One of the best ways to liven up a room of quality professionals is to press someone for a definition of “quality.” The room will quickly ignite into an inferno of disputes about it.

“It’s conformance to established requirements,” one will argue.

“No, it’s understanding variation in systems,” another will counter.

“You’re all wrong,” someone will shout. “It’s meeting the customer’s expectations!”

The concept of quality is envisioned in different ways by different people because people process information and conceptualize situations in a variety of ways. Much of this variation in mental conceptualization and information processing results from the relative dominance of one of the two hemispheres in the brain.

The brain-dominance theory

Roger Sperry, a Nobel Prize winner, initiated the study of the relationship between the brain’s right and left hemispheres. Sperry found that the left half of the brain tends to function by processing information in an analytical, rational, logical, sequential way. The right half of the brain tends to function by recognizing relationships, integrating and synthesizing information, and arriving at intuitive insights.

In other words, the left side of your brain deals with a problem or situation by collecting data, making analyses, and using a rational thinking process to reach a logical conclusion. The right side of your brain approaches the same problem or situation by making intuitive leaps to answers based on insights and perceptions. The left brain tends to break information apart for analysis, while the right brain tends to put information together to synthesize a whole picture.

Research into the brain’s function and individuals’ brain dominance was further enhanced by Ned Hermann, the former manager of management education at General Electric’s Management Development Institute. Herman developed a brain-dominance profile instrument to help people assess the manner in which they use their brains. Hermann’s research suggests that people in various professions tend to be either left-brain or right-brain oriented. Managers, for instance, tend to be left-brain dominant, focusing on organizing, structuring, and controlling situations. Social workers tend to be right-brain dominant, drawing on their ability to relate to emotions to achieve insights about situations.

Quality and brain dominance

The quality field, by its very nature, covers a broad range of concepts, tools, and techniques. Some of these concepts, tools, and techniques are clearly in the left brain arena, such as using statistical tools and organizing plans to ensure the quality of projects and processes. Others are in the right-brain arena, such as using relationship diagrams to solve problems, forming teams to analyze systems, and applying intuitive concepts, such as zero defects.

With such a broad range of concepts and approaches, it should come as no surprise when quality professionals become engaged in rather spirited disputes over how to achieve quality and even over the very meaning of the term. Left-brain quality professionals might be exasperated with their right-brain colleagues because they seem to lack an appreciation for the careful use of data. Right-brain professionals might be irritated with their left-brain colleagues for being too rigid in their thinking or too slow to grasp the causes of problems. Of course, both of these positions are relative to how the individual processes information and defines quality and neither position is right or wrong.

The dichotomy between left-brain and right-brain approaches to quality permeates the entire range of quality issues, as shown in Figure 1. The basic definition of quality, the methods for achieving it, and the approach to solving quality-related problems all hinge on patterns of thinking and information processing that are dependant on brain dominance.

For example, there are two methods commonly used to perform root-cause analysis. One approach employs a pre-established set of questions that forces the investigator into using one of the pre-established root –cause categories. This approach typifies a left-brain thinking process that values order and systematic steps in developing a solution to a problem.

On the other hand, right-brain thinkers will approach root-cause analysis by first trying the five-whys method to find a solution. The solution might not fit any pre-established set of root-cause categories, but it works. If the five-whys method does not work, right-brain thinkers will use barrier analysis (or another tool that provides a visual image of the situation) to “see” where a barrier existed.

Another example can be seen in approaches taken by quality auditors. For left-brain thinkers, the audit is often a systematic and detailed hunt for any deviation from procedures or requirements, no matter how minute. In many cases, this is exactly what an organization needs from a quality audit. For right -brain thinkers, the quality audit is often regarded as a tool for identifying opportunities for continuous improvement. Minor deviations from procedures are not giving much attention. The hunt is on for big game—that is, where the organization can make breakthroughs in customer satisfaction or cost reduction. In many cases, this style of auditing is exactly what an organization needs. Each style is different, and both can add value in certain circumstances. Each style has its roots in how the auditor thinks.

On a larger scale, the difference between left-brain and right-brain thinking can be seen in how a quality program is designed. Left-brain thinkers tend to value a cradle-to-grave quality program. They systematically design a program that comes complete with design control, verification of construction and manufacturing, statistical controls, and an

audit program. Right-brain thinkers often value the input of the employees working in the process. They design a quality program by bringing these employees together to identify existing problems, brainstorm solutions, and implement corrective actions. Left-brain program designers bring great skill in developing carefully controlled processes, while right-brain program designers get employees excited about quality and motivated

Figure 1: Comparison of Quality Approaches

Quality professionals who are left-brain dominant prefer to:

Solve problems through the use of data.

Perform statistical analysis of data.

Develop solutions using logical analyses of facts.

Have work done by individuals who are assigned to study a system using an orderly approach.

Define quality as conformance to definable requirements that can be measured.

Establish controls in the early stages of a system that will ensure quality is controlled throughout the system's life cycle.

Improve quality by studying specific variation within a system.

Identify root causes of problems by elaborately categorizing possible causes and using strict rules for questioning.

Quality professionals who are right-brain dominant prefer to:

Solve problems through the understanding of relationships.

Use cause-and effect diagrams.

Develop solutions using creativity and brainstorming.

Have work done by teams that will raise many questions and work multiple issues.

Define quality based on a holistic concept, such as total quality.

View quality as a process for continuous improvement in which controls are only temporary.

Improve quality by starting with a holistic strategic quality plan.

Identify root causes of problems by using the five-whys method, barrier analysis and process diagrams.

to make improvements. Once again, although the approaches are different, both are important.

Whole-brain thinking

It is vital to recognize your thinking patterns and be cognizant of these patterns' strengths and weaknesses in dealing with information. If you are a right-brain dominant, you must recognize the usefulness of left-brain thinking and appreciate the need to pause and pay attention to planning and organizing data and systems. If you are a left-brain dominant, you must allow right-brain input into your methodical approach to providing quality.

Quality professionals who choose to deny the validity of other thinking styles will close themselves off from their colleagues and limit their own professional growth by avoiding different tools and concepts to address differing situations. When people cling to their comfortable thinking processes, they restrict themselves in the manner by which they will be able to define a problem or situation. As it is often said among quality professionals, "If the only tool you have is a hammer, every problem looks like a nail."

At the most fundamental level, you must be aware of how you think and process information and appreciate other people's different approaches. Truly creative professionals will find ways to incorporate the talents of both brain hemispheres to maximize their personal effectiveness.

Although it's not difficult to determine which hemisphere dominates your thinking, identifying ways to harness the power of the other side can be, so here are some tips:

- If you are a right-brain thinker, you can benefit from training in logical decision making. By studying statistical processes, for example, you can envision how statistical tools fit into a broad pattern and work to incorporate these tools in appropriate ways.
- If you are a left-brain thinker, you can study team processes and broad quality philosophies to ensure that your approach to addressing quality issues has not become too focused on specific problems or completely reliant on data. You can plan to involve teams and structure brainstorming into the problem-solving process.

By effectively harnessing both sides of the brain thinking processes, you can shift from one thinking process to another as the situation warrants. For example, right-brain thinking can be used to develop a broad strategic quality plan. Left-brain thinking can be used to analyze a problem. When the problem has been analyzed, right-brain processes can be called on to develop possible solutions. Left-brain concepts can help plan how to implement a solution into the work system, while right-brain thinking can sell the solution to the organization.

Quality professionals can become comfortable with using certain tools and having certain viewpoints that fit their mental processing. To become more effective in their daily practices, however, they must learn to move out of their comfort zones. Unfortunately, professional growth has often meant digging a current rut even deeper by adding to an area of strength. This can be seen in the right-brain quality manager whose professional development for this year is to attend another seminar on team building. Rather, this manager needs to attend a left-brain seminar, such as on how to establish an audit plan. Similarly, the experienced left-brain auditor needs to take a seminar on how to lead focus groups, instead of on auditing, to develop a broader range of skills.

The old admonishment to know thyself certainly applies to knowing how you think. Often, we are unaware or uncritical of the thinking processes we routinely use to process information and make decisions. We have developed comfortable patterns of thinking that are reinforced in the neural networks of our brains. To achieve our full potential, however, we must:

1. Examine our own minds. We must become aware of your thinking processes and how they establish the frame of reference that determines how we view the world and the pursuit of quality.
2. Learn how other quality professionals think and process information. Think of another quality professional whose approach to quality substantially differs from our own. Talk with that person to learn how he or she defines quality and what tools he or she prefers to use. Chances are good that this person's brain dominance is different from your own; you can both learn a lot from each other if you are willing to accept each other's thinking as valid.

Unfortunately, instead of learning from someone who is different, people tend to avoid them or deny the validity of their knowledge. This process, known as marginalization, allows people to push those who are "different" to the edges of their awareness, where the different thinking and different actions will not disturb their comfort zones.

Whether you believe it or not

Those of you who are left-brain thinkers will likely want more evidence of the brain-dominance theory. You might even be wondering whether surveys have been conducted in which Hermann's brain-dominance instrument has been tested on quality professionals. Those of you who are right-brain thinkers will likely intuitively grasp or reject the theory offered here. PET Scan data does supports the theory.

Regardless of whether you believe the brain-dominance theory, you must realize that professional growth is not just a process of learning new tools and techniques. You can become worn out if your growth is defined only by acquiring knowledge of more tools and techniques. Growth should also come through self-awareness of your thinking processes and through understanding how your comfortable thinking patterns influence your views and your ability to learn and perform.

References

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