



QUALITY IN THE FIRST PERSON

A Hunger for Quality

by **Robert Nix**

I had just returned from the Vocational Industrial Clubs of America's (now known as Skills USA) national competition in 1977. I was competing in the commercial art field and won the regional and state competitions. I finished sixth in the nation. Fresh out of high school, I wanted to become a commercial artist or an architect, but within hours my career path would take an unusual turn.

As I was getting off the bus, I received notice of a job interview. Alma Plastics, an automotive injection molding company in Linwood, MI, was looking for a typist to assist its quality control manager. Injection molding? Typing? Quality control? I had taken six months of typing in high school and knew nothing about quality or injection molding.

The idea of an immediate full-time job trumped my desire for a possible career in art or architecture. I interviewed for the job and was hired. My boss was a highly experienced, extremely intelli-

gent chemical engineer turned quality manager. He was not, however, very organized. His filing system was chronological. He taught me copiously about quality and polymers in a very short time, and I helped him get organized.

The things I learned—inspection, testing, dimensional layouts, problem solving and customer relations—offered an exciting variety of interesting tasks. I started going to as many seminars as I could on quality. My path took another odd turn just six months later.

The quality control manager—my boss—was asked to retire. He came in one day, started throwing things into a box, said, "It's all yours now," left and never returned. I was placed in the position of quality manager, a title I haven't been able to shake to this day.

Customer representatives had mixed reactions. One quality assurance engineer from Ford enjoyed

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Is there a writer lurking inside your technician/engineer exterior? Send us your first person account related to quality—how or why you got into the field, how it helped your organization or your career or how it's enhanced your personal life. Limit your contribution to about 800 words and send it to editor@asq.org. Published contributions will be edited.

This month, *Quality Progress* offers five personal stories sent to us by quality professionals.

working with me on window bracket capability studies, and I learned a lot about probability and normal distributions from him. Another customer representative, though, told my plant manager he refused to work with a kid who was so “wet behind the ears.” I was 19 years old.

However, I began doing statistical process control (SPC) charts, correlation analyses and other techniques that seemed so obviously useful to any manufacturer. The greenhorn in me couldn't fathom

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After more than seven years, I moved to Active Tool and Manufacturing, a company that manufactured metal stampings for the Big Three automakers. I started as the SPC coordinator and eventually became their quality manager. My first meeting, one week into the job, was with some highly placed Ford managers who literally yelled at my new employers for failing to comply with SPC requirements for more than a year. The vice president of quality stood me up in front of everyone and said, “Yes, we have. We've hired this young man.”

Shaky starts notwithstanding, I created a plethora of SPC charts and control plans that yielded amazing results and eventually helped earn the company the Ford Q1 award, compliance with GM's Targets for Excellence and Chrysler's Platinum Pentastar Award.

During this time I also had the privilege of working with Bob Adams from Ford supplier quality assurance (SQA) on teaching design of experiments to personnel in all our facilities. Dave Benham, from Chrysler SQA, asked for my input on a new SPC manual the Automotive Industry Action Group was

creating. I also was employed by Delta College, teaching SPC and problem solving to local businesses. It was during my time with Active that I became a member of ASQ and a certified quality engineer (CQE).

After 10 years at Active, I went to B&K Corp., a designer and builder of assembly and test systems for the Big Three. B&K needed a quality engineer/manager who could help it achieve Ford's Q1 award (which we did receive in addition to QS-9000/TE registration). This was another turning point, as reliability and maintainability (R&M) was dropped on me like a bomb. Within a month or two, I was conducting R&M studies at customer manufacturing facilities. But it was exciting, and I ate it up. A highlight was being asked to participate with Ford on a joint customer/supplier team for developing internal R&M data collection systems, using Reliasoft software.

While at B&K, I passed the certified reliability engineer exam and was also afforded the opportunity to be an associate director/presenter at the annual Reliability Engineering and Management Institute in Tucson, AZ. My presentation, “Problem Solving Is Softer Than You Think,” dealt with the people skills needed in failure reporting, analysis and corrective actions systems.

My last job change came in 2001 when I began working for Merrill Tool Holding Co. as its quality director. I've helped two of the company's facilities register to ISO 9001:2000 and one register to QS-9000/TE. While I was there, the local ASQ section asked me to teach the R&M portion of the CQE refresher course.

Presently, I'm working with Karl Eckerle, ASQ's Saginaw, MI, section recertification chairman on lean manufacturing applications. My hunger for learning and applying new ways to improve quality and management systems has certainly been satisfied in the last 27 years. Not bad for someone who started out not even knowing what quality was.

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Certified Quality Career

by **Matthew J. Simonis**

I have never worked in a quality department, but I still work in quality every day.

I was working in the industrial engineering (IE) department at a marine manufacturing company in Washington state and had given up trying to move up the corporate ladder. I was tired of the travel and long hours. I moved back to the production floor to keep food on the table, but I was not satisfied. A little more than a year later, I accepted an entry level position in the purchasing department.

My new job was to forensically study returned defective parts and figure out why they had failed. (Try not to think about a close study of a macerator pump.) I used statistical process control (SPC) techniques nearly identical to the statistical analysis used in IE to find root causes of failures.

I compiled a list of the worst offenders, which was the company's first warranty failure report, affectionately called "The 10 Most Wanted List." Items were sorted by dollars and frequency, and every item on the list included the corrective action I was using to try to get it off the list.

Once I had identified root causes, it was time to start the corrective actions. If the problem was internal, such as an installation error, then I needed to work with engineering and manufacturing management. If the problem was caused by the supplier, then I worked with people there to redesign or change materials to solve the problem. Sometimes changing suppliers was the only option. Working with the suppliers quickly became my forte.

My supervisor at the time, Tim Kohler, encouraged me to seek certification in mechanical inspection from ASQ (ASQC at the time). The skills I learned in preparing for the exam made an immediate impact on my efforts. My reporting became even more thorough and accurate. I was able to

discuss quality topics with a higher level of expertise. And, additional inspection techniques helped provide more plans of attack for problem solving.

In the first year, I recorded savings well beyond my salary. At the end of each successive year, I was able to remove all the prior year's top 10 offenders from the list, continuing to save the company countless warranty expenses.

I created a materials preview board, a multidepartmental team formed to consider proposed products. Our intention was to weed out the bad ones and pass the good ones to reduce warranty expenses on the front end.

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Eventually, Kohler asked me to move to production purchasing, where I was put in charge of \$16 million in annual spending, a lot for a first time buyer at that company. I continued to use my quality skills in cleaning up those accounts and solving problems.

After a year and a half, I moved to the engineering purchasing group. I used my supplier quality relationships to again eliminate warranty expenses before the defective parts had a chance to make it on a boat. Many salespeople were shocked when I could break their part just sitting at my desk. I



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have been known to stomp on escape hatches, rip off reefer doors and apply my full 250 pounds in the infamous girth test, simulating the potential abuse by a boat owner.

I eventually moved on from that marine manufacturer and am currently in the aviation industry just down the road. Now I am the materials manager in charge of purchasing and the warehouse. Needless to say, I constantly use my quality skills in dealing with every department.

With accounting and the warehouse, we chase variance issues to minimize our monthly impact before they show up as bad news on the financial statements. With production, sales administration and purchasing, we work to minimize supply shortages by analyzing why we have repeat offenders show up on the list. With inspection and purchasing, we strive to work with suppliers to get parts right the first time.

We still have a lot of work to do; there is still some low hanging fruit. But we have tracked and charted our successes, we celebrate when we successfully close a project, and we continue to save the company money.

I am continually amazed at how much I've used from what I've learned in the quality field throughout my career. I've never been employed in quality or inspection, but I regularly communicate with people who are. I could not be who I am without my knowledge and experience with quality management.

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A Personal Paradigm

by **Olin K. Smith**

I've been submerged in the problems surrounding management organization for a bit more than 50 years. Much has taken place during these five decades!

A profusion of management theories have been developed—most what I call Hula-Hoops. There have been some lasting improvements but not as many as there could have been. All our efforts appear to be directed toward symptoms and not root causes.

I, for one, believe we need to understand an organization is a living being with a mind, body and soul. The health of the organization, and thus the quality of its output, is dependent on balance. All functions of the mind, body and soul must be balanced, and all theories and procedures

must be directed toward this balance.

Everyone has tucked away in the back of his or her mind a storehouse of knowledge and experience that is available at all times for problem solving. Most of the time we don't find ready-made solutions. What are found instead are good analogies, metaphors and models. We hope a paradigm develops and is readily available.

Whatever fortuitous thought rises to the occasion, I find it first emerges as a metaphor. The metaphor's task is to untie a tongue and clear the fog from a mind attempting to explain a bright idea that might just possibly be a first step toward a solution to that new problem.

This accumulation of knowledge and experience starts early—most likely further back in time than



active memory has recorded. Most of us can spot cardinal points in our experience or education and can recognize they are, in fact, back there in the mind ready and waiting even if they haven't been used for an age or two.

I found an article, "Living Systems: The Organization" by James G. Miller, on my desk on March 28, 1972.¹

I determined the living system theory, as defined by Miller, to be a perfect fit with everything in my storehouse. I devoured the contents of that article and stored as much as I could comprehend in my mind for immediate use. It became my paradigm.

A paradigm is a fixed conceptual framework you can accept and work within. The framework then becomes a filter for seeing, interpreting and correlating experience. The word and concept can be attributed to 17th century philosopher Gottfried Leibniz and were popularized in the 20th century by Thomas Kuhn, a philosopher and science historian.

The Miller living systems model offers many excellent advantages, but if taken as a cure-all, it can degenerate into a fad or another one of my Hula-Hoops. Thus, it is important to say if Miller's living systems model does nothing more than continually remind us an organization is made of people, like us, who have lives that link together in a magnificent web and make the world go around, it is a most powerful mental aid. That is my paradigm.

REFERENCE

1. James G. Miller, "Living Systems: The Organization," *Behavioral Science*, Vol. 17, No. 1, 1972, pp. 2-182.

OLIN K. SMITH is a retired director of operations research for Dart Industries, who is now doing independent quality and computer coaching in Las Vegas for small organizations. He earned a master's degree in statistics from Case Western Reserve University in Cleveland and is a retired ASQ Senior Member.

More Thorns Than Roses

by **William Slane**

This is a story that's more about thorns than roses, which sometimes is the way life goes. I guess I'm a quality addict, because despite what has or hasn't happened in my work experience, I'm still 100% sold on the need for continuous quality improvement in my chosen field.

I got my start in quality in 1987. I had just finished a successful assignment as the software expert for a source selection review board of a major military contract when I was asked to handle the "quality assurance stuff" for another project. The person doing it at the time had insisted on being transferred to anything else, and since I was currently available, I got the job.

I was introduced to MIL-Q-9858 and soon found myself in the middle of a turf war between our local government oversight office and the oversight office of our parent division in California. This all became moot, however, when 90% of our staff—including me—were laid off following a corporate level hostile takeover.

I took a pay cut and accepted a position at a government related organization investigating productivity concerns across departmental boundaries. It was then that I was introduced to an organization known as the American Society for Quality Control. With the encouragement of our vice president of quality, I was soon studying for the certified quality engineer (CQE) exam.

Shortly afterward, the software quality assurance supervisor quit, indicating no amount of money was worth what he had to put up with. I didn't want to leave my new position, but my manager pointed out I was the only person (other than himself) who could fill the job on short notice.

I accepted it with a promise that if I handled the position and passed the CQE exam, I would be considered for a raise.

Six months later, things were going tolerably well, and I was the owner of a CQE certificate. However, my manager had taken a new position when our VP of quality became the VP of engineering. I then discovered my new manager did not feel obligated to honor any commitments—namely my raise—made by his predecessor.

By this time I was participating in a software quality committee that, due to the international and varied nature of our corporation, provided me with opportunities to exchange information and ideas with a wide variety of sources. One thing we

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were excited about was an idea from a Pennsylvania university that related quality of developed software to the maturity of the software development process within organizations, a concept that would result in the capability maturity model.

Despite this excitement, my position made me aware of several serious difficulties our management did not seem willing to face. I had been selected chair of the software quality committee, a yearlong term that included membership in the corporate level executive quality committee. I decided this would be the ideal place to raise at least one of these issues.

Apparently I was mistaken. Shortly afterward, I was removed from all supervisory responsibilities, transferred to a project that included routine, uncompensated, 2 a.m. call-ins and offered permanent transfers to remote locations. The only thing my manager was not able to separate me from was my position as chair of the software quality com-

mittee, although not from lack of trying.

I thought it was time to put all that quality stuff behind me, so I accepted a position as a software developer in another government related organization.

That lasted only until my new manager discovered he needed someone who knew how to write quality procedures for the department. Then in 1996 ASQ launched a certification especially for software quality engineers, and I decided to see if I knew as much about the subject as I thought I did.

Shortly afterward, I became one of the first 100 certified software quality engineers (CSQE). Multiple participations in the CSQE exam review process followed, and I eventually found myself identified as the software quality assurance subject matter expert for our organization

Although a great deal of software is generated in my new organization, it's not considered our primary focus or even a business area, and I found out the position of subject matter expert carries neither authority nor funding.

Individuals with degrees more impressive than mine question what right I have to tell them how to write code while other poor souls want me to explain what they should do with a software management plan after they finish writing it.

Meanwhile, senior management on both our side and the government side of our contract seem to know that if software quality is the issue, I'm the person to talk to.

Fortunately, a major software technology conference is within driving distance, so I can keep current in the field, although I rarely have a chance to implement more than a few of the basic principles. Not coincidentally, I was denied this year for advancement in my ASQ membership. My application was rejected for, among other things, "lack of evidence of success."

So recently, I applied for a position in a large organization in a neighboring state. Guess what? When listing my certifications on the online application, I found out the company doesn't recognize any of the ones from ASQ. The application had an



error on another page that made it impossible to enter a phone number in the format the company wanted. As a software quality colleague of mine once remarked, "When you work in the quality business, you begin to look at things differently."

Either this company really needs my help or I

should count myself lucky if it ignores my application.

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Confessions of a Quality Pro

by **Rick Townsley**

A calculator, clipboard, phone, keyboard and bottle of Maalox were my tools. The year was 1989, and I was a production scheduler for a steel mill in Baltimore. A plantwide notice was posted for four recently created quality positions. Applying meant spending two agonizing days interviewing and testing. My first thought was, "This is outrageous!" But I also realized scheduling wasn't my forte in life, and in fact, it was killing me. This could be my way out.

With some divine intervention, I became the total quality system coordinator for ingots and billets. Impressive, hey? Sometimes it pays to pray.

Training

Our plant manager, a man of vision, recognized the need for training. My three fellow quality associates and I found ourselves attending the University of Tennessee's Institute for Productivity Through Quality that summer. We learned a few things despite ourselves.

As our thirst for knowledge grew (plus it was a job requirement), we completed additional college statistics courses into the next year. With the benefit of an incisive manager and some extraordinary consultants to assist in our projects, we achieved some amazing things. I became a believer and soon was preaching quality and continual improvement to whoever would listen.

Spreading the Word

From this spawning ground I found my skills to be valuable in other organizations. By employing simple problem solving tools, a handheld cassette recorder (for recording procedures while observing operators) and a fast typist, I helped one company save \$2.9 million in sales. We achieved this by successfully passing a supplier quality audit.

Another company was spending more than \$1.2 million in customer credits. By implementing a customer complaint tracking system with simple root cause analysis and corrective action plans, we reduced credits 22% in the first year.

Today's Customers

There was a time when process capability questions could be answered with, "Sure, all our processes are capable of making good products." Usually, this answer was acceptable to customers, especially if the relationship was already solid. But today's customer may ask, "How capable are your processes?" This forces the response to be quantifiable. Better yet, the customer will ask, "How is your C_p and C_{pk} and over what period have you collected data?"

As a consultant, I worked with one company facing such an astute customer. After establishing stability (removing assignable causes of variation), we found our processes to be somewhat less than capable. Management was understandably in disbelief,

especially after assuring the customer all its processes were capable. It's an interesting dilemma—do you tell the customer you were wrong?

This illumination caused great things to happen. Teams were quickly formed; nominal group technique and structured brainstorming

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sessions ensued. Flipchart paper with flow diagrams, fishbone diagrams, force field analyses and Pareto analyses adorned the conference room walls.

The general sentiment was "Wow!" Hard to imagine all this stuff goes into making a relatively simple product. We refined—and actually shortened—outdated procedures to reflect best practices. Training quickly followed, and implementation was immediate.

Now back to the customer: We thanked people there for suggesting we look at our processes differently. This new way of continual improvement ensured more consistent product while increasing machine use and overall efficiency.

Standards

In 1994, I was introduced to ISO 9002 as quality manager for a wire company upgrading from the 1987 standard. In 1999, while with another company, we met the requirements of QS-9000 and registered to ISO 9002:1994. Both of these systems are excellent tools. However, in my experience, an organization can embrace the models or merely muddle through. An organization's culture will ultimately determine the effectiveness of any quality scheme.

Practical Applications

Personally, I find the quality concepts I've learned and applied over the years quite fascinating and rewarding. I sometimes use control charts to chart my investments (usually out of control), my weight (in control but trending upward), exercise regimes (short run statistical process control—SPC), driving times and duration of sports events. Some people, my wife included, think I'm nuts, and at times, I have to agree with them. But in reality, I just enjoy tracking new things and will probably continue to do so.

At large organizations, small organizations and those between, I have found basic communication and simple continuous improvement tools provide the best returns. You know the tools: flowcharts, check sheets, Pareto charts, structured brainstorming and nominal group technique, to name a few. Once you establish a basis and articulate in terms everyone can understand, you're 75% there. When applied correctly and appropriately, SPC, design of experiments and other statistical methods can usually drive your point home.

RICK TOWNSLEY is president and CEO of ProEx, an intricate plastic components producer in Baltimore. He holds a doctorate in business administration from Kennedy-Western University in Thousand Oaks, CA. He is a Senior Member of ASQ and a certified quality auditor, engineer and manager.

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