Deming's principles for improving industry can help schools better prepare young people to meet the challenges of a workplace that will demand more of them than it did of workers in previous generations.

JOHN JAY BONSTINGL

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W. Edwards Deming
“I know what you mean, Jim,” I said, thinking of the multitude of times my students have raised their hands in the middle of a lecture or experiment, cutting the process short with the bottom-line question, “Mr. B, is this going to be on the test?” The sole measure of relevance, the lone determinant of student effort wisely expended: Is it going to be on the test? “Just yesterday,” Jim continued, “a new waitress asked me how many mushrooms to put on a 12-inch pizza. Apparently, at her previous job — one of those chain restaurants — she had to follow a thick rule book, and one of the rules prescribed the exact number of mushrooms to be put onto every pizza, no more and no less.

“So I asked her, ‘Do you like pizza?’ and she said, ‘Sure.’ ‘Okay,’ I said, ‘how many mushrooms do you like on your pizzas? Just do for your customers what you would like if you were in their place. You decide!’

“My toughest job,” Jim concluded, “is getting these kids to put themselves in the customer’s shoes. I keep thinking how nice it would be if they all thought of themselves as managers. I want them to take a natural pride in their work, to make good decisions without a lot of outside advice, to act as a team, to just use their common sense. My only rule is this: Everyone who works here must always keep the customer first in mind.”

I looked around at Jim’s cheerful, bustling staff. “Looks like you’ve found the secret.”

“Thanks, Jay,” he responded. “But it does take a lot of hard work.”

Most of the hard work Jim does with his young employees is focused on training them to take personal, thoughtful responsibility for implementing his customer-focused policy of service. “When they are first hired,” Jim reflected, “many of these young people wait for me to tell them what to do, even after I put them through an intensive training program. I’ve got to work closely with each of them over time, to develop the characteristics I want them to exhibit — the secret as you put it.”

Both of the employees Jim discussed with me — the college sophomore who didn’t want to waste his time with the menu and the young waitress who needed instruction in mushroom placement — are actually exhibiting ideal employee behavior, according to a philosophy of work expressed early in this century by Frederick Winslow Taylor, an industrial engineer.

The Industrial Model at Work
Taylor taught American industry to view every worker as simply “a cog in the giant industrial machine, whose job could be defined and directed by appropriately educated managers, administering a set of rules” (Walton 1990). Workers need not exercise any imagination or individual initiative, according to Taylor, because such action would only serve to disrupt the realization of management objectives.

Taylor’s industrial model was a top-down, authoritarian structure, in which management’s job was to worry about quotas and quality if necessary, while subservient workers mindlessly did management’s bidding without questioning the reasons for their work or the overall plan. It was just the sort of “enlightened thinking” that Henry Ford was looking for, perfectly suited to his revolutionary new assembly-line factory. Before long, Taylor’s model became the enthusiastically accepted norm among bosses throughout American industry — and quickly spread to the service and government sectors.

The Industrial Model at School
To a great extent, American education mimicked this military-industrial model of “efficient” work. Perhaps in that era such schooling was appropriate to train young people for work requiring “patience, docility, and the ability to endure boredom. Students learned to sit in orderly rows, to absorb facts by rote, and to move through the material regardless of individual differences in learning speed” (Clarke 1986).

Today’s teachers and students know that system all too well. The philosophy and practice of Taylorism is still in place in many schools, industries, and government offices throughout the country. And yet, it is becoming abundantly clear that this model will not serve us well in the world of the future, where workers will need to be sharp, creative thinkers with a keen sense of intellectual curiosity and a personal dedication to lifelong learning, as well as an individual commitment to the collective good.

Indeed, we are living in such a “world of the future” at this very moment. Yet our ways of responding to the challenges before us are more in tune with the perceived needs of the past than with the imperatives of our present and our future. As management consultant Robert F. Lynch tells us, “Our entire educational system is designed to teach people to do things the one right way as defined by the authority figure. We are taught to recite what we hear or read without critically interacting with the information as it moves in and out of short-term memory. In this exchange, the information leaves no tracks, and independent thinking skills are not developed” (1991).

Lynch links antiquated educational philosophies and practices with anti-
quoted workplace philosophies and practices: "The workplace often reinforces the value of compliance. The student going into the workplace has been taught there will always be someone in charge who has the 'right' answer. Satisfying the supervisor becomes akin to getting a passing grade. Satisfying the customer is secondary or nonexistent in this system" (1991). No wonder Jim has such a difficult time training his young restaurant employees to think for themselves and to "always keep the customer first in mind."

What We Lost Along the Way

What is lost in the way we have run our schools and businesses is, of course, precious opportunities for high-quality work. We now know that, apart from the military, systems that are based on control, compliance, and command stifle creativity, loyalty, and optimal performance. In such systems, fear, cynicism, apathy, and low productivity spread like a crippling disease throughout the entire organization.

Back in the early part of this century, when literacy rates were low and common mechanical work required little or no formal schooling, Taylorism reaped abundant rewards for the industrial barons of the times. And, by the end of World War II, with foreign productive capacities decimated, American worldwide preeminence in technology, manufacturing, and trade seemed to be forever secured.

But then something happened that the leaders of American industry are just now beginning to fully understand and acknowledge. The rest of the world began to catch up with the United States. Today, competition in hundreds of highly competitive fields comes from European, Asian, and Latin American companies. Most noticeably, it comes from the Japanese, whose postwar "economic miracle" has enabled Japan, a country with virtually no indigenous natural resources, to rise Phoenix-like from the ashes to attain its current position of strength in world finance and trade.

The imperative for our nation is clear. According to a study by the National Center on Education and the Economy, America's choice amounts to this: Either we commit now to high performance in the processes and products of our schools and industries, along with the development of intrinsically motivated and highly skilled young people, or we consign more than 70 percent of our workers to increasingly lower wages and put our heritage truly at risk as the global economy washes over us.

According to this report, "What the world is prepared to pay high prices and high wages for now is quality, variety, and responsiveness to changing consumer tastes. . . . "Tayloristic" methods are not well suited to these goals. Firms struggling to apply the traditional methods of work organization to more complex technologies, increased quality requirements, and proliferating product variety often create cumbersome and inefficient bureaucracies" (National Center on Education and the Economy 1990).

The alternative, the report says, is to reduce bureaucracy "by giving frontline workers more responsibility. Workers are asked to use judgment and make decisions." The results are enhanced productivity and improved quality, essential factors contributing to economic prosperity and greater democratic participation in the workplace and in our society at large.

In the school, our students and teachers are the frontline workers. How can we rethink the schooling process so that young people have greater opportunities to develop the self-direction and creative decision-making skills so essential to success in the emerging global economy and American workplace?

Deming Enters the Picture

W. Edwards Deming has profound insights to share, as educators grapple with this challenge. Deming is the American whom Japanese industry leaders today regard as the crucial factor in their postwar "economic miracle." Hearing of his reputation as an expert in statistical quality control, the Japanese invited Deming to come to their country in 1950 to teach them how to produce consistently high-quality goods and services. Over the span of four decades, Deming taught Japanese owners, managers, and workers the principles and practices of his philosophy. Those of us who can remember when "Made in Japan" was a cause for laughter and derision are now marveling at how far Japan has come in a single generation.

Until a decade ago, Deming's teachings were largely unknown or ignored in this country. Then, on June 24,
Deming would take issue with the assertion that individual teachers are to blame for our nation’s educational malaise. “Don’t fix blame; fix the system,” he suggests.

Insights for Education

Likewise, in American education we have seen a dramatic increase in student cynicism and apathy in recent years. Media attention to low SAT and other standardized test scores, not to mention international comparisons of student achievement, have led to the current national education reform movement. Classroom teachers have very often felt the sting of public upbraiding, as blame for the inadequacies of the system have been so often focused singularly upon them.

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Our students do not come into our classrooms from a vacuum. Their families have had them in their own care for a far longer time than any one teacher will have them in a course. Families are part of the educational system, and yet this generation of young people may well be the first in our country to have grown up without learning their first lessons in responsibility, competency, cooperation, and compassion at home. The implications for education are staggering. Later lessons in these essential personal qualities will come at much greater costs, if they are ever learned at all. Consistent family support and interaction with the school is paramount for student success in education and in life.

Within the school system there must be change as well. Administrators must rethink their role, allowing greater managerial freedom to teachers in their work with students. Teachers are the administration’s frontline workers. Administrators and teachers are not natural adversaries. Administrators who think of themselves as advisors and teammates with their teachers will reap great rewards in terms of teacher productivity, school morale, and community relations.

Teachers, in such a nurturing environment, will be more likely to nurture their students, to see themselves as advisors and teammates with their students, rather than power-wielders and deliverers of “the right answer.” Teachers will use a wide variety of methods to help their young charges develop their ability to set goals, to apply creative ideas and consistently high-quality effort toward the achievement of those goals (alone and in cooperation with adults and fellow students), and to take pride of workmanship in their efforts.

Teachers will use tests as prescriptive and diagnostic tools, rather than as a final “inspection” of the student’s learning. As Deming points out, the right time for attention to final outcomes in any production process — including the learning process — is at every step along the way. Industry is beginning to realize that quality assurance by inspection is inherently wasteful; it puts all the responsibility for the quality of the end product on the inspector at the end of the line. Total quality requires a commitment to quality by everyone in the production process. In education, that commitment must be made at every level,
from the superintendent, the school board, and the community, to the people who do the primary work of education: the teacher-student teams.

The whole idea of grades and student assessment must also be reexamined. Is there a place in the quality-focused school for the bell-shaped curve and other artificial determiners of success and failure? If our young people are to succeed, should a given percentage of them be made to feel inferior? What might be the results if industries in this country consciously set out to produce mediocrity or inferiority in two-thirds of their products?

Deming (now 91 and going strong) would suggest that undue attention to short-term benefits — whether they are monthly wages or quarterly corporate profit-loss statements or course grades — is inherently destructive of potentially positive long-term results.

Indeed, the entire issue of grades as assessment symbols will need to be rethought. If nothing succeeds like success, why do we seem to structure schooling for boredom, apathy, and marginal student involvement, rather than structuring the work that teachers and students do together for ultimate success? In what other industry do we bring people into the work environment without training them in the skills needed for success?

A Broader View of Education
Ultimately, the purpose of education must be redefined. Education, in the new paradigm, will not be a delivery system for collections of fragmented information in the guise of curricula. Rather, education will be a process that encourages continual progress through the improvement of one's abilities, the expansion of one's interests, and the growth of one's character. Such an education would be good for the individual, good for the economy, and good for the commonweal we call society.

This vision of education will be achievable, however, only when we, individually and collectively, commit our resources to the continuous process of human improvement. Quality is our "Job One" — a commitment we must each make to ourselves, and to one another.

References

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