Quality Goes to School

READINGS ON QUALITY MANAGEMENT IN EDUCATION

American Association of School Administrators
Quality Goes to School
Readings on quality management in education

Quality Goes to School is AASA's second collection of readings on quality management in education. The first, Introduction to Total Quality for Schools, was published in 1991. Both collections are sent to AASA's Total Quality Network subscribers as a membership benefit. For ordering information, see page 240.

Dorothy Mulligan prepared Quality Goes to School, with assistance from Martha Bozman, Lewis Rhodes, Leslie Eckard, Katie Ross, and Florence Guyer.

AASA is grateful to authors and publishers who permitted their articles to be included in this collection.

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AASA Stock No.: 21-00425

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Please tell us how useful you found this AASA collection of readings and how we might improve similar publications in the future. Call Martha Bozman, Director of Quality Initiatives, at 703/875-0754; Lew Rhodes at 703/875-0733; or Dorothy Mulligan at 703/875-0721. Thank you.
Introduction

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But what does it mean?

Hard to define, impossible to legislate for, quality, like truth, is an attitude of mind.

Charles Handy, in The Age of Unreason

Quality...you know what it is, yet you don't know what it is. But that's self contradictory. But some things are better than others, that is, they have more quality. But when you try to say what quality is, apart from the things that have it, it all goes poof! But if you can't say what quality is, how do you know what it is, or how do you know it even exists?

Robert M. Persig, in Zen and the Art of Motorcycle Maintenance

In 1991, AASA published An Introduction to Total Quality for Schools to initiate its new learning network. The publication included articles focusing on the concepts of Total Quality Management and W. Edwards Deming. We hoped the readings would provide a base of learnings from applications in various fields.

The fundamental questions we addressed then are still foremost in the minds of most school practitioners when they try to understand why people get so excited about the principles and practices that underlie this approach to organizational management. What does this mean for me? How does it relate to learning and children's achievement?

This search for meaning has been fettered by a lack of consistent language and definitions. Old familiar terms with meanings we assumed we knew -- such as quality, customer, and supplier -- suddenly became invested with new meanings. We see quality, total quality, and total quality management interchanged as catch-all concepts, so it is easy to see why W. Edwards Deming was such a stickler for precise definitions, why he addressed quality as a result and not a process, and why he totally disavowed the term Total Quality Management.

In education today, meaning is important, not just for students but also for those who shape the daily environments in which they learn. Unfortunately, the shelf life of organizational concepts -- such as restructuring, site-based management, and excellence -- decreases the more they become convenient ways to appear knowledgeable without experiencing the discomfort of thought. A real danger exists that
many terms associated with the core concepts of quality management are on that same track toward relative meaninglessness.

This condition can be countered (and is) in two ways. The most powerful is through direct personal experience with these principles and practices in the work setting. Few have that opportunity, however. A second way to develop comprehensive understanding of reality can be to view it from multiple perspectives. AASA publishes this volume to further that possibility.

This publication offers a series of perspectives through which readers can refine their own definitions and knowledge.

Three years ago, when we put together the first collection of readings, we had to search extensively for articles; most of those we found came from business and industry. This time we had the luxury of choosing from many articles within the education world. Moreover, as educators have begun to integrate theory with actual practice, the nature of their writings have shifted from whys and what's to how's.

This book of readings includes experiential depth and horizontal breadth. It contains lessons from practice within classrooms, buildings, districts, and statewide networks as well as in fields such as vocational and special education. Also included are summaries, historical overviews, lessons from other fields, and assessments of current status.

For some, the down side of this publication's multiple perspective approach may be the apparent lack of agreement on the what's and why's of quality management. For others, this divergence may facilitate their own search for common underlying principles.

The first section of this book gives the broad picture of how in the 1980s the United States finally began to listen to W. Edwards Deming, Joseph Juran, and others advocating a new non-hierarchical system of management, one based on teamwork, empowerment of workers, and commitment to continuous improvement.

The second section describes how educators interpret quality management principles in education, and the third shows how these principles are being applied in classrooms, schools, school districts, community colleges, and universities.

The final section taps a resource not available in 1991. Each issue of AASA's newsletter, Quality Network News, contains articles contributed by educators who describe their own experiences with quality management. These "Systems Leaders Speak" and "From the Trenches" columns make up the final section.

Lewis A. Rhodes
Associate Executive Director

January 1994
What Do Grades Mean?

By Mike and Jerry Stoecklein

Bobby (not his real name) is a third grader. He likes school well enough. His favorite things about school are lunch, recess, science, and reading (especially adventure stories).

Unfortunately, Bobby doesn’t like many things about school: check marks (demerit system), grades, and social studies.

Bobby is not alone. His friends would enjoy school more and would learn more if barriers did not detract from their joy in learning. Bobby and his classmates worry about many things that hamper the reasons they should be in school -- to learn and to have fun.

Bobby is learning one thing: you cannot learn and have fun at the same time. He thinks that he and his friends must sit in straight rows and speak only when told to. “Fun” is reserved for recess. What Bobby is learning is that recess = fun, learning = hard work (boring).

Why doesn’t Bobby like social studies? “It’s boring,” he says. “I don’t know why we need to know it.” Social studies doesn’t interest him and he doesn’t understand why he needs to learn it. What’s the point? He’d rather read one of his favorite books, like The Adventures of Huckleberry Finn.

Bobby also is learning that the current process is filled with fear. He has learned that threats of poor grades are used at school as an incentive. He has learned to fear the results of tests and the associated letter grades. He has learned to be afraid of report card day.

The Effects of Grading

Last week Bobby got a check mark for not finishing an assignment. The teacher didn’t take into account some possible variables: Bobby may have been in a bad mood; perhaps there wasn’t adequate time to finish the assignment. Possibly there were conflicting time demands at home -- or family problems, or distractions. Maybe the school bus was late, causing stress for all students on board. Perhaps Bobby didn’t understand why he was doing the assignment; maybe the teacher’s instructions were not clear.

Bobby isn’t searching for excuses, and he did not purposely give his teacher an incomplete paper, but he got a check mark just the same.

When Bobby gets a check mark, he feels embarrassed, humiliated, frustrated, and angry. Sometimes he’d like to cry. He feels this way because he’s trying to do his best, yet the “system” won’t let him. “I feel my face getting red,” he says. “I feel like everyone is looking at me. I feel like I’m going to cry, but I hold it back!” All of Bobby’s friends hate check marks, too. They fear getting them. School shouldn’t encourage fear.

Can you blame Bobby’s teacher? She’s doing her job. She is only doing her best. She has rules to uphold. No assignment = one check mark. Those are the rules.

At one time, someone thought the check mark system was a good idea. “It will teach them discipline. We need to maintain control.” Is that what we’re really doing? Or are we making matters worse?

Grades can destroy a student in the same way that a check mark can. Once Bobby brought home a science test with a grade of F. He was devastated. He used to like science. His dad asked him about the F. Bobby didn’t want to talk about it. He felt that he had done something wrong. All the feelings associated with getting a check mark were in play here too.

After a while, Bobby told his dad a little more. The teacher says that anyone with a score of 69 or lower gets an F, explained Bobby. His dad asked, “Why 69? Why not 79? Or 59?” Bobby didn’t know. Does his teacher even know? Maybe that’s the rule.

Bobby’s dad kept at it. “Tell me how you learn science. Do you do any of the experiments in the book?” “No,” Bobby
Bobby and his dad are interested in learning more about this and how it relates to grading in schools. They make their own bead factory and try it themselves. Bobby recruits five friends from school to be willing workers. The results are shown on the chart in Figure 2.

They learned that the results of this process were due to the system, not the workers’ efforts. All the foreman’s efforts to get the workers to improve their outcome were futile and destructive.

Bobby, Gerald, and Mark were judged to be the worst of the bunch and were let go. How did they feel? Bobby and his dad created a simple control chart to show the bead production in time sequence order (Figure 3).

If Bobby and his dad continued to dip the paddle and produce more figures, the average would settle down to some number. They wanted to learn more, so they proceeded with seven more repetitions of the bead factory. The histogram for all eight demonstrations of the factory is shown above.

What variables contributed to the outcome of red or white beads? Bobby and his dad thought about these and displayed them with a cause-and-effect diagram. This diagram (Figure 5, next page) shows all the potential variables that might influence the result — in this case, the number of red beads produced.

Bobby and his dad asked themselves what components of the process influenced the outcome. Best efforts and hard work by the workers could not improve the outcome. Ranking of workers and exhortations only resulted in humiliation, fear, and embarrassment.

Without fundamental changes to the system that produced the beads, the output would continue to be similar to that shown in the control chart and the histogram.

The workers could not control these variables. Only the management of the factory could do this.
What might this tell us about grading in schools? Is there a relationship to the bead factory?

To learn more, Bobby and his dad plotted Bobby’s test scores (not letter grades) for math on a control chart. Here is what it looked like:

Bobby’s examinations tested his understanding of multiplication. Bobby was learning his “times tables” early on. At week three, Bobby’s dad purchased a simple computer program that he thought might help with learning. His dad knew that Bobby liked to play computer games.

They worked on the math program together every night. After some work and study, Bobby’s scores appeared to be stable.

The stable variation (in the last 19 scores) looked like the variation in the bead factory. The variation appeared to be due to the system. If the bead factory had “up-stream” variables that produced output, what would the variables be for learning mathematics? Bobby and his dad thought of some:

Many variables could have affected the outcome. Bobby could have controlled some (effort, inclination to study, penmanship). His mother and dad might have controlled others (limited distractions at home, some tools to aid study, availability for questions). Still others might have been within the control of the teacher (clarity of questions, distractions at school, classroom environment, attitude toward learning).

If it was cruel for the bead foreman to chastise a worker for a poor performance with the paddle, it also was cruel for anyone to judge a student and assign a grade when it is the system that produces
the outcome. If the system is stable, it would be pointless to ask Bobby why he got an 87 on one exam and a 98 on another. It would be even worse to attach a letter grade to him.

Grades form a label. We think we are making a prediction about future success or failure. A student with an A may feel proud and be expected to do the same in the future. A student with a C or worse is labeled for future failure. "We can't expect much better from that student -- he's only average."

Dr. Deming relates a story that comes from Heero Hacquebord, a friend and colleague who had a six-year-old daughter. One day she came home with a note explaining that she scored below average on both of the examinations given thus far. This was a warning to the parents.

Other notes about other children told a different story. Some described above-average performance on both tests. "Congratulations! We predict a genius in the making."

Some students got notes that warned of a drop from above average on the first test to below average on the second. Still other parents got notes congratulating the students on improving from below average on the first test to above average on the second.

Dr. Deming explains that some knowledge of variation would show that all of this means nothing.

Look at the averages for both exams shown in Figure 8. In a class of 32 students, about 8 will score average on test 1 and test 2. Roughly 8 will score below average on test 1 and test 2. Roughly 8 will score above average on test 1 and below average on test 2. Roughly 8 will be below on test 1 and above on test 2. Nothing can be done about this.

We cannot repeal the laws of variation.

What happened to the little Hacquebord girl? How did she feel? She was devastated! Fortunately, she received some help and support and she recovered. But other students were not so lucky.

Can we blame the teacher? No, she was doing what she thought best. Her intention was to do what's best for the students in her class. Perhaps she should study variation to guide her best intentions. If grades are meaningless, what does a report card mean? Not much.

Bobby came home with a note one day. It said, "Last report card not returned. It must be returned before next card is sent home." Where was the last report card? No one knew.

It had been eight weeks since the last report card came home. What should Bobby do? What should the teacher do? Maybe this would mean a check mark for Bobby. Maybe the teacher should have given the parents an F. Bobby's dad had an idea. If last quarter's card is required, he said, they could make one.

Bobby and his dad made a report card. First they listed his subjects. Next they came up with grades for the last two quarters. Memory of actual grades was unnecessary. If the grades reflect variation due to the system, Bobby and his
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dad could fill in boxes at random, an A here, a B there. They added a C here and there.

They used a process that generated grades close to a random manner. They borrowed five dice from a board game and established a scoring system. The totals of each roll of the dice generated a score (something like counting heads).

If the total was between 5 and 9, that earned an A. A total of 10 to 14 got a B, 15 to 19 got a C, 20 to 24 a D, and 25 to 30 an F.

The report card they made up is shown above in Figure 9.

If the teacher needs a piece of paper, she has one now. Bobby and his dad have some knowledge of the system that produced these grades. They know why these grades really don’t mean anything.

What can we say about the system that produces the grades at school? Much of the variation is due to forces outside of the students’ control. The grades certainly don’t tell a story about what is being learned. They may be making matters worse. Grading may indeed be a destructive force.

**Learning without Grading**

We are not chained to the current system. If we can learn about the effects it is having on our students, we can change it. What might school be like if we pursued this new direction?

In such a school, neither Bobby nor his friends would worry about grades. Teachers wouldn’t prod students to do better by threatening humiliation or poor grades for low test scores. Check mark systems would not be needed. Bobby and his friends would like this. Everyone would work together to learn.

"Misbehaving" would be unacceptable because it would be a barrier for all to learn. Students and teachers would all understand this. Threats of check marks would be unnecessary.

Bobby and his friends could study the things that interested them. Assignments and deadlines (if needed) would make sense to students and teachers because they would be working on learning as a process together.

Bobby’s mother and dad, other parents, Bobby’s teachers, other teachers, Bobby, his friends, all the students and administrators could work toward a common aim: to learn and to have fun.

Bobby and his classmates could explore other ways of learning, and they would combine fun with learning. School would be fun and interesting. Learning would occur inside and outside the classroom. Bobby and his friends would cooperate with each other and with teachers and parents in all that they do.

Competition would disappear, even individual competition in games. Students would learn that the reason for games is
for exercise, learning, and fun, not to accumulate awards or to win at someone else's expense. Everyone would win.

Bobby and his friends could track their own progress in learning. With time and patience, they would learn to plot simple charts to see their progress or know when they were stuck. Each would know when to ask for help and would not be embarrassed for doing so. Questions would be welcomed.

Bobby could decide what he would like to learn, and how he would know when he attained a stable level for a skill. He would make connections about what interested him, what was fun, and what he would like to learn more about. He would learn to use the library to learn more. He would seek help in encyclopedias, atlases, and dictionaries. He would go to museums because he wanted to learn more, not because it was an assignment. He would see connections between things that were fun for him. His friends would do the same. They would learn that people learn things in different ways.

Bobby's teacher could win from this approach. She could help the children learn to plot their own progress and find answers to their questions. The students and the teacher could look at student test output as a system. From one test or a group of them, they could look at their output in the form of a histogram:

The tests themselves may not even require students' names on them. At a glance, the teacher and students could tell how they have progressed since the last time. They might know who among them needed special help or deserved additional study toward the "good" side, not for punishment or reward, but for learning. to help everyone learn and to search for other ways to learn, realizing that people (including children) learn in different ways.

The teacher and students would know that ranking (grading) those who are part of the system would mean nothing. To do so would cause some to be winners and others to be losers. That would mean everyone loses.

**Education as a System**

Bobby, his friends, and his teacher could learn together. But how could they begin? It would be hard for people to understand that grading is destructive and unnecessary. Many would fear the change.

One way to begin would be for everyone to view education as a system. Dr. Deming describes a system as "interdependent components working toward a common aim." There must be a common aim, and the components must work together so all parts of the system will win.

What could be the aim of education? One answer might be to learn and to have
fun. That could be sufficient.

What might an education system look like if we had a picture of it? Dr. Harold Haller, a friend and colleague of Dr. Deming’s, presented a picture of what such a system might look like at one of Dr. Deming’s seminars. It looks like Figure 11.

This picture is different than the one we all know. It will take time to see how all parts can work together.

A similar picture would have to be made for Bobby’s school, and everybody involved would understand this new picture.

Do we have to make the effort to try? What choice do we have? If we do nothing, we perpetuate the destructive forces. We also continue to fill our children’s heads with information. We cannot afford that.

We must try to produce a better future. All parts of the system must seek the type of knowledge for improvement that Dr. Deming speaks of. Continuous study of the following would have to be pursued: appreciation of a system, knowledge of variation, theory of knowledge, and psychology.

Gerald (Jerry) Stoecklein is a fourth grader at St. Rita’s School in Racine, Wisc. His father, Mike, is a board member at that school, an internal consultant for All Saints Healthcare System, and president of the Southeast Wisconsin Quality Improvement Network and Deming Study Group.

Figure 11. Public Education Viewed as a System

References


7 April 1993

Dear Jerry,

The paper by you and your dad is great. You have my permission for the quotations attributed to me. I send best greetings, and remain

Sincerely yours,

[Signature]

To Mr. Jerry Stoecklein
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