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W. Edwards Deming: A Theory for Management

"Interpretation of 14 points for Application in the Classroom"

1. Create constancy of purpose toward improvement of product or service.

"There are two problems: (i) problems of today; (ii) problems of tomorrow. Problems of today encompass maintenance of quality, regulation of output so as not to exceed immediate needs. Problems of the future command first and foremost constancy of purpose and dedication to improvement." (Deming, 1986)

Classroom application

There is a saying that goes something like this; "It's not how we start, it's how we finish." This is not to imply that there is a finish. Rather, no matter where we start, improvement is the focus. In this way the goal never changes creating a legitimate constancy of purpose that is worthy and rewarding for all students and staff alike.

2. Adopt the new philosophy.

"Deadly diseases afflict the style of management. We can no longer tolerate commonly accepted levels of mistakes, defects, material not suited for the job, people on the job that do not know what the job is and are afraid to ask, antiquated methods of training on the job, inadequate *and ineffective supervision." (Deming, 1986)*

Classroom application

Industrial style of education no longer can provide the level of student learning that is needed. Maybe it never did! We can no longer wait for students to fail to in order to take action to correct deficiencies. Rather, institute a "system of continual improvement" that resolves issues at the source of the problem. Retain lessons learned so that we no longer have to learn by making mistakes. Create a spirit of celebrating personal bests in place of sorting and ranking students. Everyone in the classroom needs to adopt of the new philosophy.

3. Cease dependence on mass inspection to achieve quality.

"Inspection to achieve quality is too late, ineffective, and costly. Routine 100 percent inspection to improve quality is equivalent to planning for defects, acknowledgement that the process has not the capability required for specifications." (Deming, 1986)

Classroom application

Quality has to be built into the process. The end of the process is too late, as it causes an increase in frustration, helplessness and failures. Use quality tools (lean/six sigma) and system thinking to create efficiencies and the ability to identify opportunity for improvements earlier in the process. Emphasis on improvements should be made at their lowest level (closest to the source). Teachers need to assess class/system (could be done through sampling) and students should assess their own system of learning for individual improvements.

4. End the practice of awarding business on the basis of price tag.

"Quality requires long term thinking. A long term relationship between customer and supplier is necessary for best economy. One can find advertisements for the teaching of control charts, at the lowest price. Anyone that engages teaching by hacks deserves to be rooked." (Deming, 1986)

Classroom Application

Schools have had this opportunity from the beginning of formal education in the United States. However, through good intentions most fail to take full advantage of the opportunity provided (single source supplier). Each grade or class has an internal supplier and customer. Only when grades/classes stay focused on preparing students for the next grade or class (customer) all the way through to graduation is the system functioning optimally. At the same time external customers must be identified and satisfied (exceed expectations).

5. Improve constantly and forever the system of production and service.

"Quality must be built in at the design stage. There is only one chance at optimal performance. There must be continual improvements in test methods and even better understanding of the customer's needs. Improvement of the process includes better allocation of human effort. Putting out fires is not improvement of the process." (Deming, 1986)

Classroom application

First, let's clarify; Schools do not make products and students are not raw materials. Students are what make schools unique and very special. They are both internal and external customers involved in a complex service system we call school. To simplify this point, making it practical to use in the classroom, one would need to understand and accept this dynamic. Basically, having teachers and students optimally placed would be a good starting point (not setting either up for failure). Testing new methods on a small scale, in most cases, should be done before implementing them on a large scale (best practices are the ones that are proven to work best). Continual collection of information efficiently and effectively is required in order to achieve optimal results (student learning). "The danger of benchmarking (copying someone else's process) is that we may fail to fully understand our own." (Deming, 1992)

6. Institute training.

"Training must be totally reconstructed. People learn in different ways. Some have difficulty to learn by written instructions (dyslexia). Others have difficulty to learn by the spoken word (dysphasia). Some people learn best by pictures; other by imitation, some by a combination of methods. The greatest waste in America is the failure to use the abilities of people. Money and time spent for training will be ineffective unless inhibitors to good work are removed (Point 12). Training must teach customer needs and appreciation of variation." (Deming, 1986)

Classroom application

While educators strive to know how students learn, it is difficult to put in place practices that are effective for each student. Knowing the make-up of the class can help. Also, include students in planning for the class and in their own learning is needed. A "paradigm" shift may

need to take place from doing what we think works best, to finding out what really works best and then implementing it. Understanding control charts (common cause/special cause) can enable teachers to improve the system (common cause) reducing the number of students in the RTI process (special cause). Note: Trying to improve learning for the class (system) using special cause solutions would likely decrease class performance.

7. Adopt and institute leadership.

"The job of management is not supervision, but leadership. The required transformation of Western style of management requires that managers be leaders.

a. *Remove barriers that make it impossible for the worker to do his job with pride and of workmanship (Point 12).*
b. *Leaders must know the work that they supervise. They must be empowered and directed to inform management concerning conditions that need correction. Management must act on the corrections proposed.*
c. *Understand variation. Treating every fault and blemish as a special cause, not working on improvement of the system. (applying rule 2 and rule 3 with funnel (experiment), making things worse not better, and guaranteeing forever this elevated level of trouble."*
d. *Example: "Every morning supervisor's recount with German thoroughness all that went wrong the day before. He was making the same mistake, treating every fault and every blemish as a special cause, to be tracked down and removed. As it turned out, most of his systems were stable. He was thus making things worse, and guaranteeing forever this elevated level of trouble. How could he know?"*
e. *"Know the job they are training."*
f. *"Remove supervision through fear."*
g. *"The fallacy of supervision by ordinal numeric and percentages (average/above or below average)." (Deming, 1986)*

<u>Classroom application</u>

Teachers as leaders will need to identify and remove parts of the classroom system that demotivates students, allowing students to take pride in their work. This means students will need to be more involved in analyzing their work, goal setting, and developing individual action plans. Teachers will need to focus more on system (class) improvement through understanding variation and statistical analysis (basic understanding). Then, lead through knowledge of the subject, facilitating learning, and coaching for continual improvement.... Celebrating individual personal bests instead of rewarding only those students with the best grades may be a good starting point.

8. Drive out fear.

"No one can put in his best performance unless he feels secure. Se comes from the Latin, meaning without, cure means fear or care. Secure means without fear, not afraid to express ideas, not afraid to ask questions. How can he mange his people if they don't hold him in awe? Management is punitive." (Deming, 1986)

Classroom application

Rules, rules, rules... follow the rules and do what I tell you and you will pass the class! Instead, institute leadership into the classroom in place of supervision. In Japan they ask why until they find out why... In the United States we typically ask why until we find out "who!" "94% of issues that arise can be related to the system, 6% to the individual." (Deming, 1986)

9. Break down barriers between staff areas.

"After talking with all of the heads of each department a company president reported; Everybody is doing a super job, and had been doing so for years. Yet somehow or other the company was going down the tube. Why? The answer was simple. Each staff area was suboptimizing its own work, but not working as a team for the company." (Deming, 1986)

Classroom application

This has implications inside and outside of the classroom. Students working together can help each other learn more effectively and improve. Math and chemistry departments working together could improve learning and retention for both classes if the structure of building and schedule allowed. Also, silos (classroom, close the door and teach in isolation, or each building doing its best to meet standards independent of the rest of the district) will need to be removed, allowing for a more inclusive school/system to be built in its place. "Working together everyone achieves more."

10. Eliminate slogans, exhortations, and targets for the work force.

"Your work is your self-portrait. Would you sign it? No-not when you give me defective canvas to work with, paint not suited to the job, brushes worn out, so that I can not call it my work. What is wrong with posters and exhortations? They are directed at the wrong people. They arise from management's supposition that the workers could, by putting their backs into the job, accomplish zero defects, improve quality, improve productivity, and all else that is desirable." (Deming, 1986)

"Here are the fruits of exhortations:

1. *Failure to accomplish the goal*
2. *Increase in variability*
3. *Increase in proportion defective*
4. *Increase in costs*
5. *Demoralization of the work force*
6. *Disrespect for management" (Deming, 1986)*

Classroom application

There are two primary issues that exist with slogans and exhortations. First, Focusing on individual effort will at best affect 6% of the system. Posters and slogans are not inherently bad or ineffective. The issue lies with posters being used to focus attention on the individual as the improvement tool or method instead of looking at the system, shifting responsibility to the student for school improvement. Secondly, who has most of the control of the information, tools used to analyze, and the assessment process? Through good intentions and culturally

held beliefs, students are left to make the best of the situation, no matter the quality of system or supports put in place.

Note: Using posters/slogans as a communication vehicle that provide visual aids, supporting a process already in place, is effective and not demotivating. More simply put, "walk the walk, instead of talking the talk," "put your money where your mouth is," and "I will believe it when I see it." The message being conveyed needs to be lived by the leader of the classroom/school.

11. Eliminate numerical quotas for the work force and numerical goals for management.
"Numerical quotas for hourly workers are sometimes known as measured day work; also as rates, or as work standards. What happens is that peer pressure holds the upper half to the rate, no more. The people below the average can not make the rate. The result is loss, chaos, dissatisfaction, and turn-over. Some rates are set for the achiever, which is even worse." (Deming, 1986)

"Internal goals set in the management of a company, without a method, are a burlesque. Examples: (1) Decrease costs of warranty by 10 percent next year; (2) Increase sales by 10 percent; (3) Improve productivity by 3 percent next year. A natural fluctuation in the right direction (usually plotted from inaccurate data) is interpreted as success. A fluctuation in the opposite direction sends everyone scurrying for explanations and into bold forays whose only achievements are more frustration and more problems." (Deming, 1986)

<u>Classroom application</u>

Artificial goals set with our best guess and best intention is risky business. Deming stated; "If they can do it next year with no plan, why didn't they do it last year? They must be goofing off." Goals can be made to improve the short term at the expense of long term success. One way this can be seen in the classroom is students cramming for unit tests to improve their grade, but not learning. They are studying for the wrong reason and in the wrong way. This does not lead to long term improvement or even an accurate assessment of their learning/understanding.

This does not mean to manage without numbers. Yes, goals, purpose and aims play a role and are indeed useful. However, setting goals should not be done in isolation without understanding. Instead institute leadership; education, training (statistical tools), and system/process thinking for continual improvement.

12. Remove barriers that rob people of pride of workmanship.
"Barriers against realization of pride of workmanship may in fact be one of the most important obstacles to reduction of cost and improvement of quality in the United States." Some of the barriers are: "failure of communication," "no lines of communication between worker and

management," "unsure of what is acceptable work," "confusion," "feeling like a commodity," "lack of knowledge of the job" "don't know how performance is measured." *(Deming, 1986)*

Classroom application

Some barriers in the classroom could include; lack of communication (assignment instructions, lack of understanding or the ability to understand, hurrying through and not being complete), questions from students not heard or addressed, students have the feeling that it won't matter anyway (lacking sense of control over their success or failure), students may be inappropriately placed in a class (not academically ready to succeed), grading procedures not fully explained or vague in nature. Using letter grades in general are vague in nature. Example: Student doesn't turn in a major assignment because they are going to fail it anyway. While it may be true that they may fail the assignment, what they don't know and aren't told is that if they scored 50% on the assignment (failing grade) that they would still pass the course for the marking period.

13. Encourage (Institute a vigorous program of) education and self-improvement for everyone.

"What an organization needs is not just good people; it needs people that are improving with education. There is no shortage of good people. Shortage exists at the highest levels of knowledge. There is widespread fear of knowledge." (Deming, 1986)

Classroom application

Deming describes knowledge as deep understanding (system thinking). This allows for a clearer insight into possible issues that keep the class/student from improving. When issues become visible there is an implied understanding that action will be taken to improve. Some resistance occurs and fear of change can result. If issues remain invisible, responsibility is relinquished and no action appears to be needed. When lifelong learning and continuous improvement are valued and supported the seemingly impossible can indeed become possible.

14. Take action to accomplish the transformation.

"Put everybody in the company to work to accomplish transformation."

Classroom application

Teachers and students will need to agree on the concept of "learning to seek understanding." They will need to be open to system thinking with each person playing a role in this complex process called school. A spirit of teamwork will need to be established allowing everyone to learn from each other with understanding that the whole is greater than the sum of its parts. It will also require the willingness and courage of everyone involved (teacher/students) to exceed expectations.

"Quality is Exceeding Expectations"