

Bridges, Tunnels, and School Reform: It's the System, Stupid

What could the Port Authority of New York and New Jersey teach school leaders about reform? Exactly what they need to know to succeed, Mr. Kelly suggests.

BY THOMAS F. KELLY

AFTER ALMOST three decades of school reform, student achievement nationally is about where it was when we started, and student behavior has declined dramatically. Numbers of dropouts, especially in our cities and among the poor and minorities, have gotten much higher. Yet we have spent many billions of dollars; countless professionals have carried out extensive amounts of work; public officials have spawned endless legislation, regulations, and mandates; and everyone has exhibited no end of good intentions. Maybe it's time for something different.

W. Edwards Deming pointed out years ago that persistent problems in organizations stem not from workers but from the system: the structure of the work; systemic practices, policies, and methods; and conven-

tional thinking.¹ The success of Toyota is an outstanding example of how Deming's methods can build a company of excellence that dominates its market.

When I was a young teacher, I lived in New Jersey and worked in the Bronx. Each morning I would drive to the George Washington Bridge and cross the Hudson River. If all went well (no breakdowns, accidents, bad weather), my delay at the bridge usually ran about 30 minutes. In the evening, I retraced my route and spent more time waiting.

As I sat in my car, wasting gas and polluting the air, I frequently cursed the toll takers (blaming the workers). In retrospect, I understand that they could not have improved traffic flow more than a smidgen even if every toll taker operated at 100% efficiency all the time.

Since those days, however, there has been a dramatic improvement in the flow of traffic across the bridge. What has made the difference? The structure of work at the bridge had remained essentially the same for over 50 years. Then one day, someone reconsidered the whole system of toll taking and made a startling observation.

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If tolls were eliminated on one side of the bridge and doubled on the other, the same amount of revenue would be collected overall, and delays would be cut by more than 50%, since extra toll takers would be transferred to places on the collection side. The change was put into place and delays were significantly reduced; the same amount of revenue was collected; toll-taker productivity increased dramatically; resource use was perhaps even a little less.

If we generalized and did the same thing at all the bridges and tunnels up and down the Hudson, or in all parts of New York State, or all across the United States, we could reduce driver stress and related medical and emotional problems (thereby decreasing health care costs), lessen air pollution, and reduce gasoline consumption. We might even reduce the divorce rate by creating many more peaceful and enjoyable dinners for commuters. Happier drivers. Happier toll takers. Happier families.

This change was actually the second continuous systemic improvement. The first had been the advent of exact-change lanes. This change had also resulted in collection of the same amount of revenue while using fewer resources.

Having made such a simple systemic improvement, the leaders at the bridges and tunnels did not stop. They continued to try to improve the system and, indeed, committed to continuous self-improvement. How did they know what to improve? They also committed to continuous self-assessment of the system to find out. Everyone involved with the system — not just those at higher levels of the bureaucratic hierarchy — is welcome to suggest ways to improve it.

Following Deming's principle of continuous improvement, subsequent changes were made. First was the Easy Pass system, a radio tag that allowed drivers to pass a toll booth without stopping and which again required fewer resources while increasing productivity. Next came Express Easy Pass.

Is there a message here for school reform? Where systemic change is concerned, the schools are at the stage of the bridges and tunnels before exact-change lanes were instituted. What's more, while the process at the bridges and tunnels remained unchanged for 50 years, the structure of education has remained basically unchanged for over 100 years. It is producing what it was designed to produce, and if everyone in the existing system performs up to capacity, there can be no more than marginal improvement in that system.

We can learn a great deal from what those in charge of the bridges and tunnels did *not* do. They didn't raise taxes annually to improve the productivity of the toll

takers marginally. They didn't institute a merit pay plan for the toll takers, nor did they give across-the-board salary increases; no matter how much you raised pay, the toll takers could not substantially increase their productivity. They also didn't pass state and federal legislation, regulations, and mandates; didn't increase toll-taker accountability; didn't raise certification requirements for toll takers; didn't remove job security; didn't fire supervisors; didn't institute new assessments (even authentic assessments) of toll-taker performance; didn't raise standards for toll takers; and didn't report poor toll-taker performance in the newspapers.

School improvement is not happening, because the present system prevents it. Ironically, both state and national reform efforts intended to improve the schools reflect the 11 futile practices listed above and add to the inertia of the system to frustrate and block improvement. The very measures now employed to reform education have not only failed consistently but will continue to fail as long as they are employed.

What can we do for the schools? The knowledge we need to improve schools already exists.


- Leaders must recognize the indisputable fact that current school reform policy, no matter how well intended, has failed to bring about increased student achievement.

- Leaders at all levels must recognize, practice, and advocate W. Edwards Deming's system of continuous improvement.

- Leaders must advocate and model continuous self-assessment and self-improvement. Excellence is a choice. It cannot be mandated.

- Leaders must advocate and model continuous *collective* self-assessment and continuous self-improvement of all educational organizations, including departments of education, school boards, and schools.

Our problem in school reform is not a lack of concern or a lack of good intentions. Our problem is at the policy level, and it is there we must start to seek solutions. Constructive policies that empower teachers to teach and students to learn and that restructure the system to remove obstacles to improvement must be enacted and implemented. Present policies that defeat their own purpose and become obstacles to improvement, while constantly driving up costs, must be abandoned and replaced with the proven systems ideas of Deming. When these principles are applied to education, we will experience a renaissance in learning and a simultaneous decrease in per-student cost.

1. W. Edwards Deming, *The New Economics: For Industry, Government, Education*, 2nd ed. (Cambridge, Mass.: MIT Press, 2000). 

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