

Education’s biggest design flaw

By Marion Brady

I live on the west bank of the Indian River Lagoon on Florida’s East Coast. Across the Lagoon, in the distance, is Kennedy Space Center. For years, I walked out on my dock and watched space shuttle launches.

On a clear, cold January day in 1986, a little before noon, the space shuttle Challenger lifted off the pad. Seventy-three seconds later it exploded, leading to the death of its seven crew members. There was almost no wind, so the white smoke plumes from the engines, then the explosion and burning debris, brightly lit by sunlight, hung in the sky for a very long time.

The disaster resulted from failure of an O-ring, a rubberlike seal in the right solid fuel booster rocket. Brittle from the cold, it allowed hot gas to leak and eat away hardware until it burned through the external fuel tank and ignited its contents.

Small design problem. Big consequence.

American education has a problem, and, left unaddressed, its consequences will be catastrophic. The problem is an appalling, embarrassing, inexcusable rate of childhood poverty, one of the worst in the developed world. Compare our 22.4 % rate with Sweden at 2.6%. Poverty being the single best predictor of test scores, that’s pretty far from a level playing field for America’s educators.

The poverty situation is so dire it almost seems inappropriate to call attention to a second, very different problem. I do so, first, because I believe the problem is far too serious to continue to ignore; second, because I want to toss a wrench into the corporate gears now grinding out destructive, market-based school reform policies. I’d like to think that the amateurs promoting today’s simplistic reform policies are smart enough to realize they’re in over their heads, that American education has problems they’ve never even thought about.

Call this one a design problem. It may seem small, but its consequences are huge. Solve the poverty problem, and America’s scores on international tests will once more be at or near the top. But leave the design problem in place, and the scores of none of the top performers will mean what they could and should mean.

The design problem? Traditional instruction is dumping poorly organized information on the young, and they can’t process it. The problem isn’t the amount of information — the brain isn’t a bucket that can overflow. The problem is the information’s incoherence.

That the organization of information is important is taken for granted. That's what school subjects do—organize information about chemistry, economics, the Renaissance, geology, physiology, Elizabethan literature, geometry, and so on. And on and on.

Teachers have it easy. They only have to deal with the organization of information in their specialization. But kids have it impossibly hard. They're expected to deal with five or six different knowledge organizing schemes, switching from one to another as their daily schedules require.

And they can't do it.

Don't dismiss this as an esoteric or marginal matter. The kids who seem to be coping, are not, are instead relying primarily on the fleeting benefits of short-term memory. The rest are turning off, forgetting, parroting, stressing, resisting, rebelling, acting out, disengaging, dropping out.

Every one of those reactions screams SYSTEM problem, but today's reformers insist that poor performance is a PEOPLE problem, that all would be well if teachers could just be bribed, scared, or otherwise pressured into doing better work. Better yet, they should quit and be replaced by electronic talking heads on learner laptops.

René Descartes, writing in 1628, summarized the design problem:

"If, therefore, anyone wishes to search out the truth of things in serious earnest, he ought not to select one special science; for all the sciences are connected to each other and interdependent..."

Rigor advocates notwithstanding, kids love searching out the truth of things in serious earnest. They can't help it. It's human nature. They turn off, forget, parrot, stress, resist, rebel, act out, disengage, and drop out because, overwhelmed by random, abstract, disconnected information, they can't pull it together and make enough sense of it to find satisfying truths.

This is at the top of my list of reasons for opposing the current corporately driven education reform juggernaut. Its dedication to the curricular status quo — the Common Core State Standards — makes addressing the design problem impossible. Got that? Impossible.

The problem of information organization can be solved, and rather easily, by making use of systems theory, but it won't get done by Bill Gates, Arne Duncan, Jeb Bush, Michelle Rhee, big-city mayors, syndicated columnists, hedge fund managers, Congress, state governors, testing companies, or any of the rest of those now running the show.

Their misdiagnoses of the causes of poor performance are leading us down one expensive, counterproductive path after another.

If there's ever a real winner in the international education competition, it will be the country whose education policymakers see the applicability to education of the ancient story of the blind men and the elephant.

That country won't be the United States. The super-hyped Common Core Standards, created by subject-matter specialists who don't talk to each other about the whole of which their specializations are parts, will see to that. Pearson, McGraw-Hill, and other test manufacturers, knowing they don't know how to test the connections and interdependencies that make information make sense, will help. They'll hire more lobbyists, expand their public relations departments, increase their political campaign contributions — whatever is necessary to keep the Common Core Standards in place. Contracts for the newly popular end-of-course standardized exams will shovel money from taxpayers into corporate coffers so fast it will be only a blur as it passes through local school budgets.

Meanwhile, the kids will continue to choke on unorganized and disorganized information. They'll study Standards for the Study of Tusks, Standards for the Study of Trunks, Standards for the Study of Ears, Standards for the Study of Legs, Standards for the Study of Flanks, Standards for the Study of Tails.

Elephant? What elephant?

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