

Crash Course: Imagining A Better Future for Public Education

In these extracts, Edison founder and CEO Chris Whittle looks at the attitudes toward systemic failures in the US education system and the lessons to be learned, outlines the concept of school design, and discusses possible future developments

Why schools are lagging behind healthcare and industry...

What would the government do if every day a thousand commercial airplanes crashed? How would the press react if the infant mortality rate increased thirty-fold from current levels? What would *Consumer Reports* have to say if every day 40 million automobiles simply failed to start?

My guess is that you instantly dismiss such scenarios as absurd. Even though each scenario presumes a failure rate of 'only' 20 to 30 percent, you probably view them as too far-fetched to merit serious consideration. In each case you intuitively know that the country simply would not accept such failure. In every one of the examples, we *expect and receive* near-perfect performance. In the safety of airline flights, the safety of childbirth at our local hospitals, and the performance of our cars, we expect well over 99 percent reliability, just as we do in hundreds of other areas of our lives.

Now ask yourself this question: How would the nation react if 15 million of our children were required, every day, to go to schools that did not even teach them to read well? Tragically, this question is not hypothetical. And we don't have to guess how we would react. We are witnesses. *We are* sending 15 million of our children, most of whom are poor and of colour, to schools that, by government statistics, are significantly failing to deliver on a promise this democracy proudly makes to all its citizens: an equal start. And if you judge our country not on what it says, not on what it hopes or plans, but rather on how it actually has responded to this devastating loss of human potential, then our record is a national embarrassment. If we expect and receive near perfection in so many aspects of our society and lives, why do we tolerate such systematic failure in the performance of a significant number of our nation's schools? Why do we apply a lower standard for the future and well-being of our children that we apply to clearly less important things, such as our cars?

In the 1990 to 1991 school year U.S. spent \$7,300 for each child *we failed to educate*. In the 2000 to 2001 school year, we were failing them at a cost of \$8,742. What we spend on failure had increased by almost 20 percent in just a decade. Why? If we don't provide our schools with R&D designed to crack the code of this problem, we are reciting a mantra well known in education circles: throw money at the problem and maybe that will fix it. This formula has become so ingrained in America's educational psyche that two false premises have been loaded onto the hard drives of many: (1) that educational quality can only go up in spending increases, and (2) if spending decreases, then so must quality. Let me say right

here: I'm for increased funding of our schools, something I will advocate later in this book. Invested in R&D-based system improvements and in higher teacher pay, more dollars will make real differences and will represent a positive shift in our societal priorities. But billions of dollars are spent on funding initiatives that have not generated results – and those dollars should be the first source of funds for more worthwhile endeavours. I'm not a believer that anyone suggesting improved cost-effectiveness should be greeted as a blasphemer.

Another way to compare and contrast the R&D going on in the private sector with that occurring in our schools is to look at the physical research and development facilities of other categories. Does K-12 education have anything approaching the equivalent of GM or Ford's test tracks? Is there anything equivalent to the Bell Labs that drove such innovation in telecommunications? Our major pharmaceutical companies have built entire research parks devoting billions and decades to the creation of new drugs. Where are the parallels to this in education, which, again, is the second largest sector of the American economy, behind only health care?

The creation of Edison schools in the early 1990s is an instructive event. Prior to the launch of our first schools, we raised \$45 million to do R&D on our school design. It was, and still is, the largest school design effort in U.S. K-12 education. We recruited 50 talented people, divided them into design teams, and asked them to create competing school designs. We gave them a couple of years to do their work. The whole enterprise was viewed with amazement by many educators. Many saw it as incredibly lavish. Why do you need such an enormous amount of money to design a school, we were asked? Is there really anything to discover?

By modern business standards, I knew, the level of work we were doing was primitive. To help people understand that, I introduced into my stump speech of the day a chart contrasting the design of the Boeing 777 with that of the first Edison school. I would ask the audience, 'How many people were employed full time to design the Boeing 777?' Answer: 10,000, compared with Edison's tiny 50. There would be a gasp from the audience. 'How many design teams were there?' Answer: over 200, compared with Edison's 4. 'What's a design team?' Answer: A group of 25 to 50 people working on just one aspect of the plane. For example, three teams worked on the layout of the cockpit. I then ask, almost always to widespread laughter, how many people designed our teachers' desks, the cockpit of a classroom? 'What was Boeing's total design budget?' Answer: \$3 billion, or about 70 times Edison's (which, again, was the largest design effort in U.S. education). And finally, I would point out that Boeing was a highly developed culture that had been doing this for 80 years, building on design of the design, not some startup, like Edison, beginning with little or no on-board intellectual capital. The point: we have never as a nation applied anything like this kind of energy, resources, and effort to the design of our schools and the systems that support them.

School Design: going beyond preconceptions about schools

The element of school design, is perhaps, the most crucial. It is the feature that most distinguishes schools of the future from schools of today – and that will enable other parts of

the design. In particular, without the implementation of this element, the large scale increases in teacher and principal pay, to be suggested later, cannot happen.

As was mentioned briefly earlier, today's default 'national school design' is so ingrained in our national psyche that most people are not even aware of the group of almost religious assumptions upon which it is based. All of us went through the current design, most for 12 years (think 12 years of imprinting), making it difficult to imagine that the school experience could be particularly different. Here are some of the things that most of us treat as 'fixed' realities:

1. In school, children must be supervised by adults virtually all of the time. Ask yourself: during your schooling experience, what percentage of time did you spend outside the supervision of an adult? If it was over 5%, you went to a very unusual school. The assumption here, speaking bluntly, is that children must be forced to learn, that left to their own devices they would never do it, and that they would flee from schools cheering, just as they do at the end of most school days. Is their fleeing a result of some anti-education gene – or could be, even just a little bit, that they are running from something they experience as ineffective and wasteful? Could it be that they are fleeing from something they view as educational assault and battery? Could it also be that under different circumstances, they would gladly stay?

2. The school day must be rather rigidly organised, generally chopped up into 45-minute or one-hour blocks. The idea that these blocks might be two hours was, some years ago, viewed as a grand breakthrough. Ask yourself: during your schooling experience, did you ever have large blocks of time that you organised yourself?

3. The smaller the number of children in a class, the better the educational results. Virtually all U.S. adults believe this. But ask yourself why you believe this. Which would be better, a bad teacher with 15 kids or a good one with 30? You might have heard that Japan has educational results superior to ours. Did you know of that class sizes in Japan are much larger than those of the United States?

4. Adults must run all aspects of the school – and do the work within it. Students are there to be 'served'. Schools carry students; students don't carry schools.

What if all the above 'truths' are incorrect – truths that we will someday regard as myths, artifacts of a forgotten era? What if we approached the organisation of the school without any of these 'truths' as cornerstones? Where might simple logic and our own experiences take us instead? What would a school look like then? More important, how would that school perform, not just in the narrow sense of standardised test scores (though in those for sure), but also in the broader sense of developing well-rounded highly skilled young adults?

Let me give you some idea of what the new truths of school design might be. Let's focus on five:

1. Learning accomplished through individual efforts, or through working in small teams, is 'stickier' (better retained) than that 'served up' in any group, no matter what size.

2. Learning can come in many forms, and the size of the learning group can vary greatly without any penalisation of effort whatsoever.

3. Children are capable of tremendous focus and responsibility on their own, and they can be taught these traits earlier than you might think.
4. Variety also matters in learning. Too much of any one thing, like sitting inactively in the classroom for 12 years, has rapidly diminishing returns. (And teachers need variety too).
5. Children can teach as well as learn. Has your child ever taught you anything? Has the older child ever taught one of the younger ones?

So working from these new potential 'truths', let's imagine what a school of the future might look like. Let's suppose for example, that beginning in the first grade children were expected to spend an hour a day learning on their own, not under the direct supervision of a teacher (though perhaps watched over by one of their older peers). Or let's assume that they were not in class for one hour a day. Let's presume that by the third grade, the amount of time in which students were on their own had increased to two hours per day. By the 6th grade and throughout Middle School, let's assume, only half of a student's time was spent in what we now think of the classroom. Finally, by high school, imagine that only one-third of a student's time was in a traditional classroom setting (if you think this is overly radical, consider that many college students are in class fewer than 15 hours a week they are only a few months older than the high school seniors. Did something magically occur at 18 to make them more capable of independent learning?)

What, you may be asking, are these students doing? Sleeping at their desks? Playing video games on the school's computers? And if they're not with teachers, then where are they? Have they fled the school entirely?

Well, the answer is: they are learning, just not, at that very moment, with a teacher, just not in a class. More often than not, they will be reading. Educators believe deeply that students should be reading, but how much of the school day do we actually allow them to do that? We say they should read in the evening, but realistically, after a long day at school and with other work and important activities, do we really believe they can or will? They will also be working with a small group of other students. And they might be on their computers, writing, researching, exploring, mining that almost endless, great new ethereal library, the Internet.

As for where they are: they are in their own cubbies, just as they will probably be years later in their entry level jobs. (This, by the way, doesn't mean that old schools have to be completely rehabbed. Just imagine that some existing classrooms are converted into rooms filled with 30 'learning spots'. New schools, though, would have a completely new architectural design to accommodate the emergence of large scale independent learning.)

Many educators reading this are probably saying, perhaps in less kindly terms, "This idea is hopelessly naive. Students cannot be entrusted with their own education; they cannot be expected to manage their own time to stop students don't understand the importance of education and, therefore, can't be expected to manage it."

My response: schools have failed to make students the masters of their own learning, and we have the results to show for it. We are still operating in a type of Charles Dickens mind set, believing these young half-civilised things called children must be literally whipped into shape, if not by a stick then by a never ending schedule. If students don't understand

the importance of education enough to take charge of their own, it is because the schools we have designed don't spend any real time helping them understand this. Worse, because it has been so long since we examined the real rationale of our schools, perhaps schools themselves don't even understand why we're teaching as we do. One of the first things schools should try to teach is why education is important. If we do that well, students will embrace their own education. They will become the school's most important teachers: their own.

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