I have had a very interesting career, beginning with my first teaching job. I was told it was an orphanage, but it was actually a residential facility for incarcerated youth—kids who were chronic status offenders. They had to hide the butter knives from one of these children because he was considered dangerous to himself and others. That was my start, and now I’m finishing my career as state superintendent of schools in West Virginia, and frankly I’m not sure which job was easier. In between I served as a high school teacher, a middle school teacher, an assistant principal, a principal, a curriculum director, a deputy superintendent, and a superintendent. I’ve learned a lot along the way, including how to be humble. On my first day in a high school classroom, I remembered something my first education professor—former state board of education president Lowell Johnson—told us about how to approach the first three weeks of class: you had to come on like gangbusters. I walked into that classroom and said, “My name is Paine and this is American Government, and if you’re in the wrong place, get up and leave right now.” Every single one of those kids got up and left, and then it dawned on me: I was in the wrong room.

Whenever I get the chance, I try to visit a kindergarten classroom. Sitting in a rocking chair and reading a book to kids restores my faith in humanity. I always participate in the Pearson Foundation and Jumpstart’s Read for the Record Campaign, and last year was quite an experience. The book was *The Very Hungry Caterpillar*, and though I’m familiar with it now, as I’ve since become a grandfather, at the time I’d never heard of it and didn’t realize how popular it was. I started reading and then held the book up, to show the young children the pictures, and asked, “What do you think happens next?” and the kids say, “I know, he eats an apple.” I flip the page, and he’s eaten
an apple. “So what do you think happens next?” “He eats two strawberries.”
I turn the page, and he's eaten two strawberries. “Boy, these kids are smart,”
I'm thinking. So we go on, through the three pears, the four peaches, and so
on, till that caterpillar's chomped through a lollipop, an ice cream cone, a
piece of pizza, and I ask, “What do you think happens next?” And a little
kid in the back of the room from the hollows of West Virginia, as innocently
as can be, says, “I know, Dr. Paine—he has to go potty.” I almost fell out of
that rocking chair. The teachers and aides were astonished and embarrassed,
but it was a great moment. These kinds of moments are the focal point of
what I'd like to discuss with regard to education.

When I was a principal, we were honored as both a U.S. Department of
Education Blue Ribbon School and a USDOE Safe, Disciplined, and Drug-
Free School at the same time, one of ten schools in the country to win such
a distinction. In preparation for the award, I visited about fifty Blue Ribbon
Schools to see what made them effective. I had already made the
assumption that too many people make about public education today: that
it's all about programs, policies, and rules and regulations. But I didn't find
those things; instead, I found creative, passionate, innovative people—
people with determination, people with resilience, and people with grit.
That's what made these schools successful.

Let's fast-forward to today and look at where we are in terms of what's
emerging from Washington. I'm very disappointed in the demonizing of
teachers that is going on throughout the country. Where teachers and
principals were once heralded as the force behind successful schools, today
they are being made into scapegoats by some of the top policymakers, not
only at the federal level but in our states as well.

There is this superficially appealing notion today that our public schools
should operate like businesses. I’m sure there are some lessons to be learned
from the business sector, but the last time I checked, businesses weren't
operating too well in this country. Just look at what happened on Wall
Street; I know that I don’t want that brand of ethics for the children that I’m
responsible for in West Virginia. Schools by their very nature are different
organisms than businesses. I’m not sure why we insist on looking at the
business world as an ideal model. Leadership studies have been done,
focusing on the leadership behaviors of some of the greatest leaders in the
business world, and education leaders can certainly learn from those studies.
But there are also some pretty great leaders in the world of education whom
we should be holding in high regard and learning from as well. Through my
experience as a principal, I learned and cut my teeth on Larry Lezotte’s research on effective schools, in which he asserts that schools can overcome their external variables if they incorporate his seven Correlates of Effective Schools. Perhaps there is some different terminology used today for the correlates, but it is the classic blueprint by which today’s models for school improvement were created. The core notion of No Child Left Behind is that every child in this country should be allowed to learn, and that we have a responsibility to develop accountability systems to hold our schools, our teachers, our principals, our superintendents, responsible for that learning.

In his summation of decades of social science research, Richard Rothstein of the Economic Policy Institute wrote that one-third of what goes on inside a school can be attributed to student achievement, whereas the other two-thirds lies in factors external to the school (Rothstein 2010). That's all the more reason to look at programs addressing these issues. We should also be building student and parent accountability measures into our accountability system as is characteristic of many of the countries in the Far East and in Europe. And no, I am not suggesting that we hold educators any less accountable. I am suggesting that we all share in system accountability.

In public education today, there’s a fixation on finding silver bullet answers. In my experience as a public educator, I haven't seen any real silver bullets—not in those Blue Ribbon Schools and not in any of the schools that I’m responsible for in West Virginia. But what I have seen over time is persistent effort, tenacity, determination, and a complete focus by well-trained and equipped teachers and principals on the learning needs of every child. Change happens over time; it is a process, not a particular event. So, though I don’t believe there is any one silver bullet in public education, I’ve been willing to try them. Charter schools were the first silver bullet suggested recently in West Virginia. However, we’re a very rural state, and charter schools may not have the same impact as they might in a big city. If I were a parent in a large urban area where a significant number of schools are failing, I’d probably want a charter school, too.

Do we need to transform our schools? No question about it. I’m just not sure that there’s a one-size-fits-all answer that’s going to be effective and prevail for all of the schools in America. For example, there are 4,900 charter schools in this country; a Stanford University study found that only 17 percent of them had significant academic gains over traditional public schools (Center for Research on Education Outcomes 2009). So while they
don't appear to be the one silver-bullet answer, they could be the answer for a lot of kids in particular locations.

The next silver bullet was the implementation of progress goals for federally funded schools, with those receiving failing and low-performing status subject to an aggressive system of corrective measures, leading to the removal of various teachers and principals. However, this solution runs contrary to the wishes of parents for their schools. It also lacks a clear research base. According to the most recent Phi Delta Kappa/Gallup Poll (2010), parents do not necessarily want to get rid of their child’s principals and teachers. They want to first help them improve by providing professional development and whatever support they need, parting company with them only if it is clear that they’re not suited for the job.

I also do not believe that teacher preparation programs are failing to produce the right teachers for today’s classrooms. I see some really smart, strong, enthusiastic students who want to be teachers growing up through the ranks, going to schools like West Virginia University, and moving into our classrooms seasoned and prepared to teach kids at extremely high levels. Teach for America has been an effective solution to the problems that exist in many regions across the country, including New Orleans. Our institutions of teacher preparation can certainly learn from this program’s emphasis on content acquisition and candidate application of that content in the field. But it is simply not a scalable solution for the entire country.

And then there is this notion of pay for performance, and have I ever struggled with the issues of affordability and fairness relative to performance pay. We need to compensate our highest-performing teachers for exemplary performance results but I see little evidence from the research and from international practice to support the shallow notion of paying teachers based exclusively on test scores. In his new book, *Drive*, Daniel Pink reveals some notions about what motivates people. And I think he's right when he says the motivational factors that seem to work for all people, including students and teachers, are not those that are extrinsic in nature but those that come from within—the intrinsic motivators. He begins with an experiment, done with members of a preschool class with an interest in drawing. The class was divided into three distinct groups: one group had associated with it expected rewards, meaning the children were told that they would receive a certificate and a ribbon for drawing; the second group had associated with it unexpected rewards, meaning that the children would receive the same reward after drawing but were not told about the reward in advance; and the
third group received no rewards. For a few days the children operated under these circumstances during playtime. After that, teachers would just set out drawing materials without any instruction. After two weeks, they looked to see which kids were still drawing during playtime, which is what they were trying to motivate these kids to do. Those with no rewards and unexpected rewards continued to draw at much higher rates than the kids who in the short term had received the rewards. The expected-rewards group drew like crazy the first week, but by the end of the second week, they had stopped drawing. Pink followed this up by recounting a classic study that has implications for policymakers everywhere. A study by the National Center on Performance Incentives at Vanderbilt University found that rewarding teachers with extra pay does not result in higher test scores. The study took place in Nashville, where a group of middle school teachers were told they would be given a $15,000 bonus based on student achievement. Compared with a group of teachers who were not promised any such bonus, there was no significant difference in student achievement. These results indicate that on its own, simply raising teachers’ pay isn’t the answer.

In addition, we may not have the expected system performance outcomes right. West Virginia became a 21st Century Skills Leadership State in 2005. We didn’t buy into the entire Partnership for 21st Century Skills framework, but we did adopt the concepts of critical thinking, problem solving, working in teams, and knowing how to use technology to enhance productivity. We moved in this direction largely because of something John Chambers, the CEO of Cisco and a Charleston, West Virginia, native, communicated to me through his father, who serves on an advisory board for the West Virginia Department of Education: “Steve, I’d relocate our world headquarters to Charleston if you could produce enough graduates with those kinds of skills.” What a task, but what an opportunity! Like John, I believe that focusing on those kinds of skills is the right agenda for the future, so I don’t see how we’re going to get there with our current overreliance on standardized test scores. In addition to measuring students’ reading, math, and science literacy, the Program for International Student Assessment (PISA) measures general competencies, including problem solving and other functional skills. And Barry McGaw, from the University of Melbourne, has been working with Cisco, Intel, and Microsoft on putting performance-based tasks into large-scale assessments. These projects will help us render valid and reliable decisions about performance-based assessment as quickly as we can, in order to change the lay of the land of education in this country. And
those performance-based tasks are embedded in the Common Core State Standards. The Council of Chief State School Officers (CCSSO) and the National Governors Association (NGA), working with partners in higher education, did a wonderful job assembling those standards. Deborah Loewenberg Ball was at CCSSO’s Summer Institute in Minnesota, along with the chancellors of higher education from around the country. We were talking about improving the quality of teaching, and to support her point about the difficulty of training teachers, she put a three-digit multiplication problem on the screen. She presented a problem similar to this—$493 \times 255$—and then listed it two more times showing three different answers, complete with three different sets of work, representing three different students. Then she asked me and my colleagues—arguably some of the brightest educators in the country—to figure out the processes the students employed to arrive at their answers. She gave us five minutes, and of the two hundred people in that room, none could diagnose the problems in the students’ work. The point was that being an effective teacher is more than just being smart and knowing a subject, but also being able to convey that information to others, which comes from understanding how others think. That was an eye-opener—that teachers need not only know the content but see it from the learner’s perspective.

So where is the answer? The answer is in Donna Landin, one of our Department employees who was guest teaching an eighth-grade geometry class. Donna uses a project-based learning scenario. Every child has a laptop, which she had donated by local businesses. When I visited her classroom at Horace Mann Middle School in Charleston, I found Donna giving her students their assignment for the week. Rather than passing out a worksheet to calculate the square footage of a rectangle, she told her students that there had been an accident in the teachers’ parking lot the previous day, in which two teachers backed into each other. She told them that their task was to redesign that parking lot in the most efficient way to minimize the probability of that type of accident occurring again. After meeting in teams to work through the problem, they went down to the mayor’s office to ascertain the legal requirements for a parking space in Charleston. When they returned, they did their square-foot calculations for a single space, then went out to measure the perimeter of the parking lot. As the lot was not perfectly rectangular and contained several nooks and crannies, they were getting into multistep calculations. The next thing they had to do was decide the best way to lay the spaces out—straight or
diagonal—in the available area. After they came up with their final project scenario, they had to present to a jury consisting of city officials, parents, and community members, and they had to do it in their digital portfolios. Now that’s pretty cool stuff that can’t be measured simply through the use of a standardized test.

I am convinced that an investment in great teaching will prevail in the end, that our investment in people, human capital, and teachers is the answer to most of our problems in public education. To borrow from the late great Senator Robert Byrd (WV), who emphasized important points in his speeches by mentioning them three times, I leave you with this thought: Teachers, Teachers, Teachers.

References


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Future education system will be unleashed with the advent of a standardized rapid courseware-builder and a single point global distribution system. “Education is now the number one economic priority in today’s global economy.” – John Naisbitt, Author of Megatrends. While many people are making predictions about the direction that education systems are headed, we have found the best predictors to be hidden in the participative viral systems springing to life in the online world, such as iTunes and Amazon. These bottom-up approaches are quick to develop, participant-driven systems that are closely aligned to the demands of the marketplace.

direct our futures inquiry towards the educational technology field itself, and to ask: what might be the implications of future socio-technical change for education, and, what does this mean for research in this field over the coming 25 years? As a basis for the discussion, the paper outlines the work of the Beyond Current Horizons programme, a two year project tasked with interrogating potential socio-technical futures for education which brought together over 100 academics from disciplines as diverse as computer science, demography, psychology, and sociology.

2. a set of future scenarios for education in the context of long term socio-technical change and a set of projections of socio-technical developments over the coming quarter century. The future of education involves new education formats which effectively up-skill workers but also fit into the requirements of the busy, modern life.

Vikas Gupta, co-founder and CEO of Wonder Workshop. “The future of education is hands-on. Learning has always benefited from hands-on play. Every day, technologies come forth that make hands-on learning not only more fun, but a lot more educational.”

“The digital revolution we have witnessed in most sectors hasn’t been fully embraced in education yet” but it inevitably will. The tools and technologies available today will empower education, allowing for on-demand learning. The most significant benefits of this revolution will come in the form of a personalized education that is delivered in a bespoke manner. UNESCO’s Futures of Education initiative aims to rethink education and shape the future. The initiative is catalyzing a global debate on how knowledge, education and learning need to be reimagined in a world of increasing complexity, uncertainty, and precarity. EXPLORE. Thinking together so we can act together to make the futures we want. The future of education is all about strengthening and incorporating student-centric learning. In this endeavor, the onus is on teachers to adopt personalized learning and teaching patterns. Flexibility in learning is the keyword that governs the forthcoming tendency of imparting quality education to students. Education has surpassed the geographical boundaries coming in the form of online training courses that can help students to enroll and complete them from any part of the globe. A host of open-source educative sites are now available to students to educate them about any topic under the sun. They can simply browse the topic that interests them the most and exchange information through social media circles.