The Reformers Are Leaving Our Schools in the 20th Century

Why most U.S. school reformers are on the wrong track, and how to get **our kids'** education right for the future

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What President Obama said:
"We need to out-educate."

What Obama should have said:
"We can't win the future with the education of the past."

This is an unprecedented time in U.S. education, and awareness that we have a problem has never been higher. Billions of dollars of public and private money are lined up for solutions. But I am convinced that, with our present course, when all that momentum and money is spent, we shall nonetheless end up with an educational system that is incapable of preparing the bulk of our students for the issues and realities they will face in the 21st century.

The reason is that the educational improvement efforts now in place are aimed at bringing back the education that America offered students in the 20th century (with some technological enhancements). Sadly, too many people assume this is still the "right" education for today, although it no longer works for most of our students. Despite the many educational projects and programs now being funded and offered, practically no effort is being made to create and implement a better, more future-oriented education for all of our kids.

However well-meaning those who propose and fund today's educational reforms may be, their aim is generally to improve something that is obsolete. They are obsessed by the "sit up straight, pay attention, take notes" fantasy of education past. "Discipline" (as opposed to self-discipline, or passion) is heard a lot – Obama used it in his SOTU speech. It does not matter how much money these reformers spend; because they are pursuing the wrong goal, their efforts are doomed to failure.

Even if, as result of such efforts, some students achieve better test scores, the current reforms will not solve our real educational problems, which are related not to test scores, but to the future. No matter how innovative a program may appear on the surface, it is money being thrown away. If we continue on our current course, we could, in the words of Mark Anderson, "even double or triple the amount being spent, and it wouldn't move the meter one iota."

The tragedy is that if we used the money and momentum now available with the *right* focus and effort, our students' education *could* be made real, valuable, and useful for the future – and fairly easily.

It wouldn't take that much work to decide what should be done – most educators could, I believe, come to consensus. But to get those changes accepted by a majority of our citizens, and to make them actually happen, will require much effort and change on the part of our educational and political leaders. It will also require some new thinking by many, including parents. That is where today's so-called education "reformers" – from Barack Obama to Arne Duncan to Bill Gates to Newt Gingrich – should be, in my opinion, focusing their efforts.

Fix the Education, Not the System

Currently, lots of money is being spent on trying to fix the educational "system." But what the reformers haven't yet understood is that it's not the "system" that we need to get right; *it's the education that the system provides.* This distinction is critical, because one can change almost everything about the "system" – the schools, the leaders, the teachers, the number of hours and days of instruction, and so forth – and still not provide an education that interests our students and gets them deeply engaged in their own learning, or that teaches all of our students what they need to be successful in their 21st-century lives.

Unless we change *how* things are taught and *what* is taught, in all of our classrooms, we won't be able to provide an education that has our kids fighting to be *in* school rather than one that effectively pushes one-third to one-half of them out. And this is true for all our kids, both advantaged and disadvantaged.

Most politicians – along with many education reformers – mistakenly believe that our current public school education, designed for an earlier, industrial age, is basically okay, although currently poorly implemented: if we can just find the teachers to teach it right,

the thinking goes, and get our students to go through it, they will do better in life as a result. That may once have been the case for most students, but it no longer is. The context, the world, and our kids' educational needs have changed radically, and we need a fresh approach to education.

In part because we "got it right" in the past, the reformers believe that education should remain essentially the same in the lifetimes and careers of today's students as it was in theirs. So the way to fix our current educational issues is to return to what they see as the "fundamentals" of education: its 20th-century incarnation.

Whether couched in terms of values, character building, or behaviors, and whether or not they allow some contemporary technology to be squeezed in, the reformers fundamentally believe that they can bring back "what once worked." (That it ever worked for all, of course, is a myth.) That belief has tragic ramifications for our students today.

It is tragic *not* because those goals are unimportant for the future. We certainly should preserve, in appropriate quantities, the core values and most-useful ideas from the past. It is tragic, rather, because so much of we do currently teach, and what so many want to preserve, is now unimportant because the context for education has changed so radically.

In the current environment, every field and job – from factory work to retail to healthcare to hospitality to garbage collection – is in the process of being transformed dramatically, and often unrecognizably, by technology and other forces. And while most reformers recognize that society is going through dramatic changes (even though few truly "get" their extent, speed, and implications), they too often – and paradoxically – do not see the need for education to change fundamentally to cope with them.

When politicians, administrators, or even parents believe that succeeding at our current education (i.e., memorizing the multiplication tables, mastering the long division algorithm, being good at paper-book reading, and studying science, history, and civics in traditional ways) is what is important for today's and tomorrow's students, they put those students at a huge disadvantage relative to the fast-changing future.

When our leaders think that the job of educators is to re-create the old education better and more effectively for today's students, they deny our students the means to cope and thrive in the 21st century. When they think success at education is moving our kids up in the international PISA [Program for International Assessment] rankings, they send the message that they want our students to compete in the past.

In other words, the educational medicine most prescribed today – the test-scores-driven, tenure-busting, results-rewarding (in the words of Judith Warner of the *New York Times*) fix of Arne Duncan, Michelle Rhee, and others – will not result in our kids getting the right education, even if it reaches whatever goals they set, because it treats the wrong disease.

Assessment: The Big Gorilla

To deal right away with the "big gorilla" of assessment: I believe that assessment is important, if used correctly, for helping both students and teachers improve. But in the current debate, it leads us away from what we could be doing to actually improve our kids' future.

The much-bandied-about, high-stakes assessments of today are poorly designed, used badly, and give us wrong information. They are poorly designed, despite their claimed statistical sophistication, because they measure things no longer valuable, do not measure many increasingly valuable skills at all, and rely overly on a discredited approach to assessment (i.e., multiple choice questioning). They are used badly because they serve only to rank, and do not provide useful feedback to students and teachers to help them improve. They give wrong information in that they often measure not what kids know, but rather their test-taking abilities.

There are plenty of ways to do assessment differently – and more gently – with much better and more accurate results. For example, Microsoft and other companies are currently at work on assessments that measure student-led learning, as well as assessments that are integrated within the learning process (in ways often similar to how video games assign players "levels" based on accomplishments). Unfortunately, today our high-stakes, standardized testing has become so over-hyped that it is hard to be against such testing and still be for good assessment. The for-profit testing companies, whose executive ranks – perhaps not surprisingly – include many of those who, while in government, pushed the current testing programs, have now become a strong lobby for the current testing regime.

Don't Blame the Teachers (or Students)

Sadly, the biggest consequence of the reformers' false belief that 20th-century education can be made to work if only it's better-implemented has been the serious, continual, and unwarranted attacks on our two most valuable educational resources: our 55 million students, who *are* our future, and the 3 million adults who courageously choose to teach them. Talk about bullying! These are the people we should be nurturing and helping, rather than beating up.

The failure of the 20th-century approach is not the fault of our teachers. While there are clearly some who are not suited to the profession, in the main our 3 million teachers are people of competence and good will. And while there is certainly room for improvement, most are just trying to accomplish, often against their will and better judgment, what the old education asks and mandates of them – that is, to "cover" the curriculum and raise test scores. The teachers I talk to are enormously frustrated by the fact that, while seeing that what they're told to do is not succeeding, they are handcuffed from doing anything else. If we take off those handcuffs and provide a better alternative, most teachers will, I believe, be eager to implement it.

Nor are students to blame for our educational problems. Young people are biologically programmed to always be learning something. The real problem is an education that gives neither the teachers nor the students a chance to succeed. Even if we are successful, as Arne Duncan hopes, in recruiting talented people to replace the 1 million teachers expected to retire, the education model they will be expected to deliver will almost certainly discourage them and beat them down, causing a large percentage to leave.

It also doesn't do our students much good to try to graft lots of "21st-century skills" onto existing school programs, while leaving "core" education in place as-is – the approach of the Partnership for 21st Century Education, for example. Yes, those skills are important, and adding them is fine, in theory. But unfortunately, our "core" is so overloaded with out-of-date content that it is already impossible to deliver all the things teachers are supposed to in the time they are given. So just adding more skills to the list – even crucial ones – will not work. As I describe later in this letter, we must delete first.

How Much Do Charter Schools Help to Build "21st-Century Skills"?

We hear a lot about charters as models of what education in the U.S. could and should be. But even in that percentage of charter schools and others where the old system *has* been resuscitated – i.e., gotten kids to sit attentively, listening to teachers lecture about the 20th-century curriculum – it does little good for our students in the long term. While it may create students who are ready for further advancement in that same system, and it may even get them into college, it does precious little to prepare them for the rest of their lives. In addition, there is no way structurally we could create enough charter schools to replace all our current schools – and college may not be the right goal for every student.

To get to where we want, and need, to go with our children's education, I don't believe that it's necessary to start up thousands of charter schools, creating a new complexity of choices for already confused parents. Doing so would mean struggling with a Herculean task that is basically impossible, and would still leave us with the same problems of providing an appropriate education for today's kids.

The charter schools that *are* "succeeding" – KIPP, Uncommon Schools, and Harlem Zone being a few examples – are essentially succeeding at the old education. That, of course, is what they have to do to be called "successful," because that is all that's measured.

Unfortunately, to succeed in this way, the charters cherry-pick and hire those teachers who are best at the old education, and in doing so, remove those teachers from existing schools. Systematically, the charter approach only shifts things around, and so, in terms of the future, gets us nowhere.

Changing *How* We Teach and *What* We Teach

Rather than start over with new schools, a far better, more effective (and, I believe, easier) approach is to change what goes on in our current classrooms. To change, that is, both *how* we teach and *what* we teach, in ways that reflect our current and future realities.

Changing the "how" means creating a pedagogy that works for today's students. Changing the "what" means creating a curriculum that is future-oriented and engaging to today's students, while remaining useful and rigorous.

Again, the only possible way to accomplish these things is to enlist the competence, skill, and good will of those 3 million teachers we already have, along with those who are entering the profession. We must give these people new directions for what to do and help them do it. Anyone who thinks that teachers can't, or won't, change should look at how quickly they changed their pedagogy to "teaching to the test" after the implementation of No Child Left Behind.

How to Teach – **Changing Our Pedagogy to "Partnering"**

Changing how we teach for the 21st century means moving to a new, more effective pedagogy – a clear proven pedagogy that I call "partnering" with our students.

"Partnering" is a catchall term for approaches that include problem-based learning, case-based learning, inquiry-based learning, student-centered learning, and others which have until now been seen as "different." At their core, they are all variations on the same central pedagogical idea, generally accepted by experts: *an end to teaching by "telling," and a reassignment of roles for the teacher and students.*

We need to move from the teacher talking and the students taking notes. ("My teachers just talk and talk and talk" is by far the students' biggest complaint about school.) In partnering, the students do what they do – or can do – best, which is finding information, using technology and other resources, and creating. The teachers do what they do best, which is asking the right questions, ensuring quality and rigor, vetting, and adding context and appropriate scaffolding.

This different way of teaching, which has enough variations to be able to be made to work for all our teachers and students, is clear, well thought-out, and agreed to by most experts. How to implement it is described in many books (including my own: *Teaching Digital Natives: Partnering for Real Learning*), and it can be done quickly and without changing the curriculum. In its essence, the pedagogy has kids teach themselves, with the coaching and guidance of their teachers.

And, based on the experience of principals and teachers who have used it, partnering is almost certain to lead to higher test scores, because it gets kids far more engaged in their own learning.

This better pedagogy is already being used successfully, under a variety of names (such as "active," "student-centered," "inquiry-based," and "challenge-based" learning), in many of our classrooms. What we need now is to systematically expand its use to *all* existing teachers, subjects, and classes, and to teach it to prospective teachers in our education schools. All this new pedagogy takes to implement is an understanding of how it works, along with a systematic, non-threatening, approach that makes teachers think "I can do this."

We need to refocus our teacher training around more effective pedagogy, rather than just around particular technology tools. In a "verbs vs. nouns" metaphor that many find useful, the "verbs" are the unchanging *skills* of education, such as thinking critically, communicating effectively, presenting logically, and calculating correctly. The "nouns" are the *tools* of education – the technologies that students use to learn and practice the skills. In the 21st century, nouns change with increasing rapidity.

For example, for learning the underlying skills (verbs) of presenting, communication, and getting information, nouns (tools) currently used include PowerPoint, email, and Wikipedia. But while the verbs will not change over the course of a student's education, the nouns certainly will. Our pedagogy needs to focus on the underlying verbs, while providing students with, and employing, the best, most up-to-date nouns (tools) to do so – many of which are becoming so inexpensive that they can be supplied to all students at the beginning of each year in most places.

Some of the verbs students need to master are unique to our changing times. Skills like programming digital machines, video communication, statistics, and problem solving should be studied by all our students starting in kindergarten, as we weed out as quickly as possible those skills that are no longer needed – particularly ones that machines can do faster and better.

Currently, far too much emphasis is placed – and training time wasted – on our teachers' learning to use specific nouns, such as blogs or other software. The tools not only change too rapidly for this to be effective, but educationally are best used by students rather than teachers. As important as it is for our children to have access to technology tools, for the tools to be at all effective educationally, the right pedagogy – i.e., the partnering pedagogy – must come first. So it is imperative that we help teachers recognize the benefits of this pedagogy to our students and to themselves, and that we, as a nation, start using it universally.

What to Teach (and What Not to Teach) – Changing Our Curriculum

Changing *what* we teach is probably harder than changing how we teach – not because it is so difficult to figure out, but because the needed changes face so many political and cultural hurdles.

We have an urgent need to create a wholly new curriculum for our 55 million students, retaining the wisdom of the past but reflecting the enormously changed needs of not *only* our 21st-century students, but also of their eventual 21st-century employers.

But because our curricula are already overstuffed, the new curriculum must begin with deletion – figuring out and eliminating those things that are no longer truly needed, yet take up tremendous amounts of class time. Since every piece of our current curriculum has its backers and partisans, it is crucial that everyone be made to understand this need to delete, or we will never make progress. To those who maintain that students should take years of 1,000-year-old geometry because it helps their logical thinking, we must respond: "So does programming, and it will help them get jobs."

Deletion candidates in elementary school, for example, include cursive handwriting, the long-division algorithm, and – very controversially – memorization of the multiplication tables. Deletion candidates in higher grades include much (though certainly not all) of some traditional mathematics courses and many details of history (not the broad strokes, of course).

I am not suggesting that we totally abandon all these once-useful things, many of which are dear to the hearts of educators and parents. But it is time to put them on the reference shelf, alongside the Latin and Greek we once required, for retrieval only when and if needed by particular students.

I strongly believe that if we are able to change these two things – how we teach and what we teach in our current classrooms – our current and future teachers, with some training, are fully capable of delivering, and will deliver, the education our students so desperately need.

Steps in the Right Direction

Despite all the focus that reformers place on testing, our hardest and most pressing educational problem is not raising test scores, but rather connecting our kids' education to real life and to the fast-evolving world of the future. It is our inability to make the material we are currently required to teach in school *real* and *interesting* for today's students – call it relevance, or engagement, or something else – that makes so many current efforts unsuccessful. And our teachers know it.

We must, first and fundamentally, re-design education to be connected to students' "reality" – the world they see and know. While students have always asked "Why should I learn this?" the answer, for most things, is now less and less clear. The real reason kids have to learn most of what they are taught today is "because it's in the curriculum," not because it will be useful long-term. (This could be easily verified by having adults take the SATs and making their scores public.)

In the words of Angus King, the former governor of Maine, "Our kids should sue us for the education they now get." Similarly, David Engle, school superintendent and U.S. program director for Project Inkwell, has said: "Every student is damaged or cheated out of a more productive future by our continued adherence to an old, defunct system design."

Ignoring Students' Passions At Our Peril

And it gets worse. Current U.S. education ignores almost entirely the thing that has always been America's greatest strength: the passion of our people.

Amazingly, our current education places no importance on even knowing the individual passions, or interests, of our students, and most teachers don't ask – not necessarily because they don't care, but because they are so occupied with all the other required tasks (such as teaching for the tests) that they feel they have no time. But if we lack the time to find out who our students really are and what they like, it is hard to create an education that interests them.

Although we have been moving the deck chairs of "system" reform for some time now, we are still at the very beginning of even *thinking* about the "right" education and curriculum for our students, in terms of how and what we teach.

To better employ the greater amounts of time that deletion will enable (years, perhaps!), we can add much-needed, and currently largely untaught, behaviors and skills, including proper online behavior and etiquette, controlling our increasingly complex machines (e.g., programming), understanding and correctly using statistics (especially polling statistics), literacy in non-textual and mixed media, systematic problem-solving, using technology to effect change, and the basics of communication in all the world's major languages – beginning in the earliest grades and continuing throughout all the school years. Changing the curriculum in this way is just in its infancy, but the need is urgent.

Everything we teach should also be matched with a clear answer to the student's constant question of "Why am I learning this?" Students should be taught to immediately use what they learn to effect outcomes in the world, and change it for the better. For example, they can use their learning to design a school of the future, or to redesign their current school. They can use the languages they learn to work directly with foreign students. They can learn to perform professional energy and environmental audits of local businesses. They can use their knowledge and skills to create Public Service Announcements for local TV and radio stations.

The 3 C's

To those who argue that patience and delayed gratification are important, I answer yes, but only if students are convinced their efforts will truly pay off in ways that are important to them. It is therefore crucial that we create a curriculum that is focused almost exclusively on future reality, and on connections to today's and tomorrow's world, while respecting the past.

The new curriculum should be much more cross-disciplinary and integrated than is currently the case, because this is how the world works. Additionally, it needs to focus much of its teaching on at least three areas that are not given enough – or often any – systematic attention in our current education. Let's call them the "3 C's": Character and Passion, Communication and Problem Solving, and Creation and Skills. In the new curriculum, all subjects would be taught in the context of these 3 C's, rather than just being grafted onto an existing content base. To elaborate:

Character and Passion

Systematically focusing on character and passion will correct one of our current education's greatest failings: focusing more on content and subjects than on the people being educated.

In the current system – or at least the public portion, which is most of it – there is an almost total lack of curricular emphasis on character, i.e., becoming a good person in addition to a good student. Teachers may work on this, but it is not "in the curriculum," except in the earliest grades. When our current education was conceived, such character education was mostly left to the home and family, a context that no longer exists sufficiently (or in some cases not at all) for many of our students. We need to find ways of making character a cornerstone of our education, while still maintaining the secular values that characterize public education. Here is one place we can look to some of our private and charter-school successes for guidance.

The formal part of our education has also almost totally excluded our students' passions. Some of these passions get to be expressed in extracurricular activities, but students will do far better if their personal passions can be more integrated into our teaching. Students often complain that too many of their teachers don't know them as individuals. At the least, all our teachers should know what their students' passions are and help those students approach their school subjects through the lens of those passions.

Communication and Problem Solving

Communication and problem solving are highly linked: most 21st-century problem solving is done in groups, and even the best of solutions are worthless when not shared. Yet we currently do not approach either communication or problem solving systematically and holistically in all subjects.

I believe that almost every problem in life can be helpfully viewed (and many solved) through the lens of a common framework, a framework that we should teach to all students, from kindergarten to college. This "Five Skills Framework for Problem Solving" can be seen in detail at www.marcprensky.com/writing/framework, and is the subject of my upcoming book. The Five Skills Framework, if applied to all subjects, would create thousands of new problem-solving and communication experiences over the course of an education, and become a useful tool in students' 21st-century lives. The five skills are:

- Figuring Out the Right Thing to Do
- Getting It Done
- Working With Others
- Doing It Creatively
- Continually Doing It Better

Each skill is further broken down into supporting skills. For example, Figuring Out the Right Thing to Do includes Identifying Problems, Behaving Ethically, Thinking Critically, Making Good Decisions and Judgments, and Setting Goals.

Creation and Skills

Creativity, as several educational observers these days have noted, is often actively *dis*couraged in our current education. Given the tools that our students have increasing access to – many right in their pockets – with enormous capabilities and power that were only dreamed about in the past, today's students ought to be the most creative in history. Our future curriculum and education should be about unleashing all our students' creativity with these tools, in every subject and in every area of student passion.

Again, it is not the tools themselves that we need to focus on, but rather the creativity and skills that the tools enable and enhance.

Appropriate Education for All Students

American tradition holds that it is important to educate everybody, and I am in total agreement. All of our students need these changes.

Paradoxically, the success of some of our students with the old education distracts many observers and sends them down the wrong path, because it holds out the false hope that if only our schools did a better job of what we currently ask of them (i.e., if only there were a teacher with a master's degree in every classroom, for example, or longer school hours, or tighter discipline), then the existing system could be fixed for everyone.

Those students who succeed in the long run, *despite* an education that is largely out-of-date, do so because they have the internal means. We should be striving to give all of our

students a far better education, with skills and challenges that prepare them for the future. While also doing far better for our brightest students, we must focus equally – or even more – on the perhaps more challenging problem of what to do for those 90% of students who are *not* in the very top percentiles.

While our top students often go on to get further education to make up for what they've missed, the other 90%, because they often don't have the ability or means to get another education somewhere else, rely on their public education as their only hope. They see their expected jobs disappearing, and they are afraid.

The Importance of Asking the Right Questions

While a great many well-meaning people in government, philanthropy, and business have recently noticed our educational problems and have rushed into action, most have failed to ask the right questions.

Is the right solution to the hyper-changing world to push all students up to college, or to match their education with the needs of emerging jobs? Is the right solution to kids' falling behind to demonize their schools and teachers with poor rankings, or to find ways to help each student individually? Is the right solution to America's falling behind in comparisons to catch up on the statistics, or to take a different route to success? Is the right solution to the high number of dropouts to discipline our kids into getting an old education or to incentivize them into getting a new one? Is the right way to get kids to attend our schools to pay them (as some suggest), or to create an education that they fight to get into? Is the right way to spend our money and creative efforts to start or expand more charter schools, or to change what goes on in all our existing classrooms?

When leaders and reformers diagnose the *problem* wrongly (i.e., as the need to patch up, rather than completely reform, the old education), they choose the wrong solutions and actions to fix it. Why has this happened? One possible reason is that practically all of the leaders and reformers – whatever their ideology – received the old education themselves, and then succeeded in life. They may believe that since that education worked for them, it can work for everyone. But using oneself as a sole data point is one of the most elementary mistakes in reasoning.

A second reason is that many believe the old education is the "right" education, constructed around basics they perceive as "timeless." But only a very few of the basic skills a person needs are truly timeless – most depend heavily on environment and context. The basics of yesterday or today – decoding squiggles, fine cursive penmanship, calculations on paper – are not going to be the basics of tomorrow or forever. Already, in the 21st century, a great many of these old "basics" have been offloaded to personal machines such as watches, calculators, cellphones, and computers, which should, ideally, leave our children's minds available for more tasks at higher levels.

Why Business-Based Education Solutions Have Been Missing the Mark

A great deal of the blame for today's wrong-headed approach to fixing our education lies, I believe, with the recent influx of businesspeople and "business thinking" into education and educational reform.

In New York City, for example – America's largest school district – the mayor, who is a businessman, wrested control of the educational system (possibly a good thing), but then installed a businessman to run his schools. After that person's seven years, the education of New York City's kids, despite some tiny pilots, is hardly more oriented to the future than before. And now that that businessman's tenure is over, the mayor has turned to another businessperson, whom he chose because she is, in his words, a "superstar manager."

What these people are expected to bring to education is, of course, business management ideas, and they do – so much so, in fact, that I watch in amazement the amount of money now being spent on things like "improving school management," "accountability," and "leadership," rather than on improving our students' education. Why? Because that is what businesspeople know (although, as I learned as a student at Harvard Business School, business management can be a seat-of-the-pants, make-it-up-as-you-go art).

Don't get me wrong: it's not my opinion that school management, accountability, and leadership aren't important – they are. But they are far from the crux of education, or of our educational problem. That problem is to change what goes on every day in every classroom in America; to change what we teach and how we teach it. Businesspeople, unfortunately, have few useful ideas on how to do this. In fact, their ideas have led mainly to our schools' increasingly viewing students as fungible products whose quality is measured only by test scores.

Business managers coming into education focus mainly on the behavior of their employees, typically giving short shrift to the opinions of the kids who are getting the education. They bring in all the latest management tools and fads (management has even more fads than education does!) and repeat a largely-irrelevant-to-education mantra of "Accountability, Measurement, Data," as if that might fix what is wrong in our classrooms. They spend enormous amounts of our limited and precious educational resources on systems to collect, compile, and analyze huge quantities of information, insisting that all educational decisions be data-driven. Never mind that the data they measure is often inappropriate for the real educational goals, that what they hold people accountable for is typically wrongly defined, or that they are training leaders to lead in the wrong direction.

A school may be "better run" if it has an effective leader, but it will not necessarily offer students a better education. The educational changes truly needed to do that will come not from better superintendents or principals, but – again – from changes in how and what we teach.

While administrators can encourage this, they cannot make it happen. The only thing that will make the needed changes happen in sufficient numbers is a bottoms-up appreciation and recognition by teachers of the need for, and adoption of, new approaches. And that will happen only when reformers create and effectively promote such approaches.

Sadly, what the influx of business thinking has mostly brought to education is our current destructive over-testing, and the poor pedagogy of teaching to the test. It has also led, I believe, to a huge gap in the types of educational innovations truly needed, and to an increasingly bleak future for our kids.

Curriculum Overload and the Need to Delete

To be fair, there have been some positive attempts by businesspeople to identify new skills needed for future business jobs – particularly through the Partnership for 21st Century Skills, a consortium of business companies. But unfortunately, even this work, while helpful in many respects, avoids the most important issue regarding students' actual learning of the new skills.

Merely identifying the necessary skills is not the key task, nor even the most difficult one; many observers have figured these out. Again: the greater difficulty is, rather, that teachers cannot just add these skills onto what they already teach (as the Partnership suggests), because the current curricula are so overloaded.

The truly hard work, which hasn't been forthcoming from the business sector, is figuring out what skills can be deleted from the curricula, with little or no loss, in order to make room for the new. Admittedly, deleting is much more controversial than adding. But by not recommending and supporting specific deletions, business managers have essentially punted, which has handed the tough task of making room for the new skills, and getting them taught and learned effectively, back to the educators.

So, unfortunately, the business sector has not provided the answer to our educational problems or needs. The only way to change education is to change our expectations for what should happen in all our classrooms, and to empower our teachers and students to make it happen.

The Real Culprit: Stealthy Resistance to Forward Movement

To reiterate: the biggest impediment to a better education for our children is the often deeply rooted belief that education needs to move backwards: back to "disappearing values," back to kids with "longer attention spans," back to "teachers who stood up and really taught." At a time when the world is moving forward at hyper-speed, this makes little sense.

The proposition that "more education inevitably leads to success" has also become common wisdom among politicians, parents, and others, because, until not long ago, it was true that, statistically speaking, getting through school paid off, big-time. Historically, the further one got in the system, the better one did: averages from past years show large lifetime advantages in earning power for those earning bachelor's or master's degrees.

But unfortunately, the statistics of the past are no guarantee for our children's future. Past statistics are reliable predictors *only if conditions remain roughly the same* – and in the case of education and jobs, almost everything is changing radically. The world will continue to change even faster as our students grow up; and in this environment of hyper-change, all bets are off.

Remember how many people believed (based largely on past data) that housing prices would always go up – until they fell? The only way to ensure that the positive link between more education and better jobs applies in the 21st century is to make major changes to the education we give our students.

Only the *Right* Education Helps

Again, please understand – I am a firm believer in education as a way to get ahead. I very much agree that getting the right education, and as much of it as possible, will help all students in life. But I do not believe that what we currently offer our students *is* the right education for their future.

Since all the important changes we need will take time, what can we do for our 55million kids in the meantime? How can we make their current learning real and engaging for them, and not a waste of their time, causing one-quarter of them or more to walk out the door before graduating from high school. For me, this requires a short-term laser focus on the "how we teach" – i.e., on changing our pedagogy.

Our current education forces teachers to apply their efforts in misguided directions that sap their energy and effectiveness. I believe that there are an enormous number of teachers who would do a much better job if they were allowed to ensure the learning of the key parts of whatever subject they teach, rather than being required to "cover" the entire detailed curriculum of their subject or grade level – and if they were not burdened by the kinds and amounts of high-stakes testing now required. If our kids are to learn, we need to release, not destroy, our teachers' creative energy.

Focus on the Kids

Just as we need to liberate and empower our teachers, we need to do the same for our students. Our current education is frequently demeaning and disrespectful, too often unnecessarily subordinating the individual needs and desires of students to those of the system.

In the teacher hiring process, there are many requirements for "degrees earned," but few, if any, for "empathy with students." Unbelievably, our educational system neither teaches nor tells teachers directly that the most important part of their job is *connecting with students*, not delivering content.

Those (many) teachers who do connect deeply with students typically find that they're out on their own. Still, given all the other pressures the system puts on them to cover the curriculum and prepare students for tests, few are able to connect profoundly with enough of their students, and this is something our educators should both require and facilitate.

"Easy to Do/Big Impact" Steps

If, tomorrow, every teacher in America spent 20 minutes of class time asking each student what her or his passion was, and then later used that information to understand each student more deeply and differentiate their instruction accordingly, education would take giant positive steps forward overnight.

It is actions like this – steps that take minimal time and effort on the part of teachers, but have great potential positive impact on kids' education – that we should be looking for to improve education in the short term, even as we work to reform it in the longer term.

Other "easy to do/big impact" steps include:

- Less "telling" by teachers (and allowing kids to research the answers to guiding questions on their own);
- Always connecting what is taught with real-world outcomes;
- Helping students distinguish the unchanging "verbs" (skills) of education from the rapidly changing "nouns" (tools);
- Treating students as learning partners;
- Employing students' own tools (particularly video and cellphones) for learning;
- Using more peer-to-peer teaching;
- Offering students far more choices, rather than mandating what all must read or do;
- Allowing students to be the primary users (and maintainers) of classroom technology;
- Sharing of successes via short videos posted on sites such as YouTube or TeacherTube; and
- Regularly connecting students with the world via free, secure tools such as Skype and ePals.

Conclusion

It is sad for our children, and America's future, that we are so focused on re-creating and fixing the past. Our children deserve a 21-century education, one that prepares them not just for the day they leave school, but for their future careers and the rest of their lives.

Certainly, all of today's students should be able to read and write at some minimum level. But it is equally certain that those skills will be far less important in most of our kids' lifetimes than they are today, as new core skills take their place. Without the changes to our goals and focus described here, our government's much-hyped "Race to the Top" is nothing but a race back to the 20th century.

I would caution those who might dismiss the ideas in this piece as just another incarnation of approaches that have been tried in the past and failed. "Some might see this," says James Paul Gee, professor of Literacy Studies at Arizona State,

> as just recycling project-based and other old progressive approaches, while failing to deal with the issues of standards that has bedeviled these approaches. But, in fact, this is not about old-style progressive approaches. It is about immersion in doing that is still well-structured by good design, about mentorship, and about resourcing from teachers and peers. It is about assessment that can be done inside learning all along and not just at the end in some 'drop out of the sky test.' It is a call for a fresh approach to 21st-century education in America that is desperately needed.

America's rankings in the PISA scores, along with the fact that China and India have more honors students than the U.S. has students, are often cited to support a need for America to catch up. But as a student at Harvard Business School, I learned that when competing with such giants it is far better to have a different, more clever, strategy than to just work harder at doing the same thing they do.

There is no point to our competing with the Chinese or Indians (or Finns or Singaporeans) on test scores – we should let them win (and brag about) those useless comparisons of the past.

America should be building, rather, on our unique strengths, focusing our main efforts and resources not on book-learning from the past and standardized testing, but on stimulating the passion and creativity of all our young people; and on honing our well-deserved reputation for ingenuity and entrepreneurship. If we do this – and do it right – our young people will flock back into our schools, and the America of the future will remain the envy of the world.

Marc Prensky is an internationally acclaimed thought leader, speaker, writer, consultant, and game designer in the critical areas of education and learning. He is the author of four books: The Five Skills Framework (Corwin Press, in press) Teaching Digital Natives: Partnering for Real Learning (Corwin Press, 2010), Don't Bother Me, Mom, I'm Learning (Paragon House, 2006) and Digital Game-Based

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