



CENTER FOR EDUCATIONAL INNOVATION-  
PUBLIC EDUCATION ASSOCIATION

**CRASH COURSE:  
IMAGINING A BETTER FUTURE FOR  
PUBLIC EDUCATION**

**SPEAKER:**

**CHRIS WHITTLE**

**FOUNDER & CEO  
EDISON SCHOOLS**

**OCTOBER 18, 2005**

**Luncheon Series**

### **ABOUT CEI-PEA**

The Center for Educational Innovation – Public Education Association (CEI-PEA) is a New York-based nonprofit organization that creates successful public schools and educational programs. Our staff of experienced leaders in public education provides hands-on support to improve the skills of teachers and school leaders, increase parent involvement, and channel cultural and academic enrichment programs into schools. The benefits of this hands-on support are multiplied through a network of more than 170 public schools in New York as well as work in other major urban school systems across the country and around the world. We operate in cooperation with, but independently of, public school systems, providing private citizens the opportunity to make wise investments in the public schools.

### **ABOUT THE LUNCHEON SERIES**

CEI-PEA's luncheon series provides one of the only forums in which the full range of stakeholders—parents, principals, teachers, policy makers, leaders of nonprofit organizations, funders, newspaper reporters—are able to meet and discuss critical issues affecting public education. Topics of the luncheons range from educational research on innovative instructional models, to analyses of educational policies, to practitioner models for effective school leadership.

### **SPECIAL THANKS**

Special thanks to Bob Isaacson, Executive Director of CUNY TV, for broadcasting the CEI-PEA luncheons to the public. CUNY TV's educational, cultural and public affairs programming is an invaluable resource for our city, and we are proud to be a part of it.

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## NOTE FROM THE CEI-PEA PRESIDENT

The United States spends 100 times more money on research and development for healthcare than it does education. Why? Well, for one, we value our health. Does this mean then that we do not value education?

These are the kinds of provocative questions that Chris Whittle, founder and Chief Executive Officer of Edison Schools, has been asking for more than two decades. Now, he has written a book to share these ideas with the American people. *Crash Course: Imagining a Better Future for Public Education* suggests such radical ideas as investing billions in research and development for public education, doubling teacher salaries, providing computers for every student, experimenting with the structure of the classroom and school day, and much more.

His suggestions are “radical” in that they would require a major transformation in the ways in which Americans think about and implement public education. However, they are perfectly sane if one feels that public education is on a “crash course,” and if public education does “crash,” all other sectors of society will be profoundly damaged as well.

Chris’s ideas emerge from his experience leading Edison Schools, which was founded in 1992 to partner with public schools to help raise student achievement through research-based school designs, assessment systems, professional development programs and technology initiatives. Chris launched Edison after a highly successful career in communications. He was founder and chairman of Whittle Communications, one of America’s largest student publishers, as well as Channel One, the first national electronic news system, which has received a host of awards, including the Peabody Award, one of television journalism’s highest accolades. From 1979 to 1986, Chris was also chairman and publisher of *Esquire* magazine.

On October 18, 2005, Chris spoke at the CEI-PEA luncheon series about his ideas for the future of public education. Some in the audience arrived cautious, expecting that Chris would suggest radical privatization of the public schools as the solution to entrenched problems. They left energized by his vision for transforming American public school systems into systems that work for our post-industrial society.

What follows is an edited transcript of Chris’s remarks. We have done our best to retain the power of his commitment and vision.

[SIGNATURE]

Sy Fliegel

## INTRODUCTION

**Sy Fliegel:** Good afternoon. Someone asked me what I was thinking about in my invitation to come hear Chris Whittle speak when I described him as a “revolutionary with a bow tie.” When I was the head of alternative schools in East Harlem’s District Four, all of the directors of the small alternative schools considered themselves to be revolutionaries and dressed informally. However, no one knew they were revolutionaries because no one listened to what they had to say. I would often tell them, “If you want people to listen to you, wear a tie.” But I never thought of a bow tie. [Laughter.]

*“Chris Whittle is a thoughtful, caring person who is a major advocate for public education.”*

Let me tell you why bow ties—more than regular ties—can command respect and be revolutionary. If you ever have to go to the hospital—and I hope you don’t—to visit a friend, put on a shirt, tie, and suit if you are a man. When you come into the room where the patient is, pick up the chart and look at it. I promise you your friend will get more attention than any other patient in that room. [Laughter.] That is the power of a regular tie. Betsy McCaughey, the former Lieutenant Governor, heads an organization whose mission is to prevent staph infection in hospitals. I’m sure you’ve read that 100,000 people die each year from staph infections, and she said to me, “Who do you think spreads the most infections? The doctors.” She explained that the doctor goes from patient to patient and bends over each bed to talk to them. What’s hanging in that patient’s face and nose? The doctor’s tie. My recommendation is that doctors should wear bow ties when making rounds. We could reduce the infection rate by 50 percent. Now that’s revolutionary. [Laughter.]

Now, back to our revolutionary in a bow tie, Chris Whittle. In his new book, *Crash Course: Imagining a Better Future for Public Education*, Chris cites an interesting incident. He was walking in New York City—having been brought up in Tennessee—and he passed a homeless guy lying in the street there. He stopped and then kept walking. As he walked away, he said, “If I were back in Tennessee, I would never keep walking. I would help that person get up.” And as he kept walking, he felt terrible about it, and he promised never to do that again. But living in New York, he had the opportunity to do it again. And the analogy he makes is that we have children in our school system having just as bad a situation, and somehow we often just walk away from it and accept it. But Chris doesn’t. He’s a resourceful, caring gentleman, and I appreciate his being here today to speak about his strategies for helping children in our public schools.

Chris is a very nice fellow, he really is. Eugene Lang, founder of the highly successful I Have a Dream organization, grabbed him for a half hour when he came in and started asking, "How could you make money on poor children?" Of course, Chris was a gentleman and didn't tell him that he hadn't been making money. [Laughter.]

I often tell the story of Harvey Newman who is now one of the CEI-PEA senior fellows. One day, when he was director of a small alternative school in East Harlem I came in to see him as his supervisor. When I arrived he said to me, "Boy, today was a bad day in the market." I asked, "Oh, how so?" He said, "I lost \$300,000." I can't tell you how impressed I was because here was this teacher on a teacher's salary telling me that he lost \$300,000. I thought he must be a financial wiz. So you can imagine what I think of Chris Whittle. [Laughter.] For all the money Edison Schools has lost in the market, he must be a genius. [Laughter.]

In all fairness, Edison is now finally making money, but here is a group of people who put \$700 million into schools without making a nickel. I always used to say to parents who came to me, "If I were your school, I would take on an Edison project because they're spending a lot of money on schools. Your kids will get laptops; your kids will get a lot of great resources for your school." So I am very, very happy to know Chris Whittle because he keeps at it, and I think he's now reaching the point where he feels he can truly change public education.

Now let me tell you a little bit about his book. I think an analogy he makes on the front flap of the book speaks to the premise of his entire work. He asks you to imagine that when you arrive at an airport and go to buy a ticket that the ticket agent says, "Welcome, I want you to know that only 70 percent of the flights to your destination arrive. The remainder crash en route." Now imagine that you are a person of color or poor. The same ticket agent would inform you that you must fly on special, poorly maintained planes, of which a smaller percentage make it. None of us would tolerate such horrible standards for air transportation. Yet we tolerate it in school systems.

Chris Whittle is a thoughtful, caring person who is a major advocate for public education. But don't take my word for it. Let me tell you what some other people say about his book. Rod Paige, former Secretary of Education, believes that our public schools are on the brink of extraordinary change, and he thinks Chris Whittle is an important agent of that change. Wendy Kopp, a fine lady who leads Teach for America, states that "Anyone interested in the challenge of improving public education should read *Crash*

*Course*. It offers intriguing, potentially revolutionary ideas for building a first class system that educates students at a whole new level.” And Walt Isaacson, president and CEO of the Aspen Institute: “Practical revolutionaries are hard to come by, but we find one here in Chris Whittle. Readers who care about our nation’s children take heed.” Lamar Alexander, former Secretary of Education, and presently a United States Senator, says, “Democrat, Republican, or Independent, this book should be read by all,” and he goes on to praise the book.

It is a great pleasure to have Chris Whittle here to talk to us about his vision for the future of public education. Let us agree or disagree, but I promise you it will be thoughtful and interesting. Here is Chris Whittle.

[Applause.]

## GUEST SPEAKER

**Chris Whittle:** Thank you, Sy. I'm losing my voice, but don't worry because if I have trouble, Benno Schmidt—my partner for the last, what, seventeen years?—Benno is here to take over at any moment and will be glad to answer any question I provoke, right? [Laughter.]

When Benno and I first conceived of Edison Schools about 15 years ago, one of the first people we called was Sy. I don't know if he remembers this but he came to Knoxville, Tennessee, which was the educational capital of the country at that point. [Laughter.] Sy was very, very nice in terms of helping us think about schools, and many of his ideas ultimately helped form Edison. Sy, we appreciated your counsel then and throughout the past fifteen years.

I'd like to amend two stories that Sy shared with you. First, there is another part to the airplane story. When you go up to the counter and they say that 70 percent of our flights make it, they also ask you whether you would prefer a window or an aisle seat. [Laughter.] And about spending \$700 million without making a nickel—that was not our plan. [Laughter].

I just published my first book. It's called *Crash Course: Imagining a Better Future for Public Education*. The publisher and I struggled with the title and we liked it because it was confusing. In some ways it was about the crash course that I've been through over that last 15 years at Edison Schools, and in other way it's designed to

*“America is making progress in its public schools... But—and this is always the important but—we are not close to where we need to be in public schools.”*

be a crash course for readers. And then another way you can think about it is that if we don't change something soon in America, it may be that America is on a crash course of its own, so it worked in all those particular ways.

I want to start here: America is making progress in its public schools and it's important that we applaud that and that's not just a platitude and it's not just political correctness. The data actually indicates it. The Council of Great City Schools in the last two to three years has reported the largest gains coming out of major urban systems for some time. Philadelphia, which we're very involved in, has been experiencing substantial double-digit gains across all of its schools, not just the ones where we are. New York City has posted substantial progress, particularly in the early grades,

in the last couple of years. And then we actually noticed at Edison something that we found interesting. About seven or eight years ago, we assembled what we think of as a control group of approximately 1,100 schools across the United States that have very similar demographics to the schools where we work, and in total there's a million students—it's a very large sample, a million students in these 1,100 schools, and each year we monitor how those million students are doing. For years it was basically flat-lining, meaning there was not particular progress. Then, about three or four years ago, we noticed scores beginning to rise within the control group. So overall, across the country, for lots of different reasons, we are seeing public schools improve.

But—and this is always the important but—we are not close to where we need to be in public schools. This is not a public school bashing book; there are plenty of those out there. There is only one chapter in this book that looks at the status of public education, and from that chapter here are a few facts that are pointed out:

- We have 15 million functionally illiterate children in the United States today. Fifteen million. America has more illiterate children than England has children. It's literally a nation within a nation. That data comes from the National Assessment of Educational Progress.
- Thirty to thirty-five percent of our children in a given year are below basic levels of literacy and numeracy. To give you a sense of that, it's been that way for the past 12 years and it's moved one point in about 15 years. So we have a terrible situation in terms of scale—fifteen million children, that's the equivalent of every child in 30,000 schools performing below basic. None of those children has any real chance to be part of the American dream.
- We have thousands upon thousands of schools in the United States with 90 percent plus failure rates. A couple of years ago, I was preparing for an address somewhere and I asked our statistics department, "Give me the twenty lowest performing schools in New York State." When I looked at the numbers that they brought me I was stunned. There were 13 schools in which not one child passed the State assessments. One hundred percent failure rates. Thirteen schools with 100 percent failure. And I asked, "Is this just New York? Could you run that in South Carolina? Could you run it in Pennsylvania?" In state after state we saw the same sad statistics.

I'm not going to spend a lot of time on enumerating these problems. We know that they exist. What we are going to do about these problems—that's what this book is about.

First and foremost, this country has been investing an enormous amount in running the old schools that we inherited from another time. We've been increasing spending at twice the rate of inflation for decades in America's schools, and one of the things that this book proposes is that we have to start doing something else—which is, we've got to start investing in changing our schools, which is very different than investing in operating our schools. Now I'm sure you're asking, "What do I mean by that?" Let me give you two examples.

The United States spends \$1.6 trillion a year on healthcare, and as a result we do have one of the best healthcare programs on the globe. We literally export our healthcare. My wife is Italian and I have a lot of relatives who come here for healthcare. And one of the reasons we have good healthcare is because we spend that \$1.6 trillion. But that's not the only reason. Another reason is that every year the United States government, through the National Institutes of Health (NIH), invests \$27 billion in research and development on healthcare. There are 27 different NIH centers focusing on different diseases, different specialties. The average one of those centers has a billion dollars a year in research and development dollars that are all aimed at cracking the code of various diseases or advances in healthcare. Now ask yourself, "Where is the NIH of education?" And how much are we spending on research and development in education in the United States to invent, if you will, the next generation of schools? Another way to ask the question is, "If illiteracy were a disease, what are we spending to find a cure?"

In researching this book I asked: where is the NIH of education? There is something called the Institute of Educational Science (IES); most people have never heard about it. It's a small department in the Department of Education. One would assume that it gets a lot of money. It gets \$260 million a year. That's less than 1 percent of what we spend in healthcare research and development. On their website, they explain that they only have enough funding to give a degree of attention to just one area of education, which is reading. We spend 100 times as much as a nation to ensure our adults live longer than we do to give all our children a good start. And it doesn't end at healthcare.

And by the way I am not a rabid liberal or a rabid conservative, but I am going to talk about defense for a moment. Whether you agreed or not with the Iraq war, you have to agree with this: we have the finest military on the globe. *The New York Times* recently reported that our conventional military is so good that it leaves our adversaries with only one option, which is to go nuclear. It wasn't a comforting article. And the reason is: in our conventional capacity, the military is so superior that no one can compete with it. How did it get that way? It got that way because we invested in keeping our military modern over many decades. And just to give you an example of how we do that, every 15 or 20 years, the Department of Defense says, "We need a new fighter. The old one we've got only goes mach two and a half, you know, we need to go mach three. We need to extend range, we need to do this or that." And they go out and they say to everybody who is capable in that particular area, "We'd like to see your proposals on new

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fighters." A few years back, they gave Boeing \$9 billion to build a prototype. Not to produce 300 of these things, but to build the prototype. Now, that is 40 times as much as our nation spends in educational research on one weapons platform. One weapons platform. Forty times as much.

What if DOE, not DOD, went out and said, "We're going to give someone \$9 billion to design the next generation of high schools in the United States." [Laughter.] Now, you're laughing, but the fact is, we should be doing that. And we should be saying to GE or Microsoft or Dell or a great American university, "Here is \$9 billion. Bring us back the next generation of high schools, bring us back the next generation of middle schools, bring us back the next generation of elementary schools." And you know what, you would be stunned at what we would see in that kind of process if we actually did it.

What we have in research and development for public schools in the United States is amateur hour, and we get what we pay for. \$260 million is a tiny figure in serious research and development for any other field. Let me give you one other example.

Ford, Chrysler, and General Motors invest 100 times as much every year in research and development on automobiles. Their cars look pretty much the same every year. But what you do get every year is better technology. They get more fuel-efficient, multi-speed wipers, heated seats, side airbags—all that is a result of continuous research and development.

All of this provokes the question: why are we not doing serious research and development in education? Why is this country not spending a red cent to create the next generation of schools? It's a critical question to ask, and I address it in the book and I'll mention here two of the reasons.

First, while there are exceptions to the rule I'm about to share, there are not a lot. The rule is that the great majority of rich, powerful and influential people in America do not confront the problems of public education on a daily basis. They don't own this issue. In 1997, the *Washington Post* reported that not one Congressman, not one Senator, and not one senior member of whatever administration it was in 1997 sent their children to the D.C. public schools. Not one. I was recently in a large gathering in a major American city that I won't name. I did a little pop quiz. I asked, "How many of you send your children to public schools?" Not one hand out of 300 came up. Not one hand out of 300. We were chatting about this at our table today, I wondered what would happen if in New York we closed all the private schools and said, "In addition to that, you can't move to the suburbs." [Laughter.] Would we have better schools? You betcha. And it sounds un-American, but that is precisely what we do to families in poverty. The private schools are closed and they can't move to the suburbs, and the rich and the powerful and the influential do not own this issue, and as a result, nothing is happening. Because if you don't own it, you don't mobilize.

But there is a second reason—and I think this is actually the biggest one—when it comes to schools. We have had a national failure of imagination. And it's something that stuns me. America is the creative capital of the globe, but when it comes to schools, we believe that schools are schools. To say it another way, we actually don't think there is anything to discover in schools. I think there are several reasons that we think that.

First of all, we all went to the same school. Now, we all went to very different schools, but if a Martian came here and looked at my school and your school, the Martian would say, "These are exactly the same thing." Meaning, they start at about 9:00 a.m. and end about 3:00 p.m.; they're chopped into six classes a day; they divide it up into subjects; there is a teacher in the front; the kids are around. More or less, they are all the same. The concept of schools was imprinted in all of us with Intel precision and we can't escape that. We literally think that schools can't be changed. They are what they are, and we ask, "If we spend \$9 billion, what would they tell us to do?" We actually think that there's nothing to find. I want to tell you, this actually happens to me all the time. I've spent 15 years in the vineyards of public education and hundreds of times, I've heard this statement: "We already know all there is to know. We just have to execute better."

Sorry, I don't buy that. People have been trying to "execute better" for a long time. I think we have a design flaw. Actually, it's not a design flaw; it's that the old design has simply outlived its time. We have educational metal fatigue. At some point, it just doesn't work anymore. And when you have thirteen schools in a state with a 100 percent failure rate—and by the way thousands more with 90 percent failure rates—how can you say that we don't have a design issue? We've got a design issue in a big way. I mean, if 90 percent of the planes coming off LaGuardia runway were going right into the bay, don't you believe Boeing would consider that they might have a design flaw? They wouldn't assume it's an execution issue.

So, half of the book asks us to imagine what schools of the future might look like. The press focus in on that. That's really not what I care about. Whether my ideas are right or wrong on what schools of the future should look like, the important thing is we have to mobilize in this country to find out what those schools should be. I just threw a bunch of ideas in there. They are ideas that I have given a lot of thought to, ideas that are provoking and are hopefully things that will aim people to a conclusion that there are different ways that we can do this. I'll give you one example.

We pay teachers in the United States \$46,000 a year. That's average. The book says if we're going to make this profession attractive and something other than a philanthropy, which is roughly what most of our teachers are, they are philanthropists for all of us, we're going to have to double or triple teacher pay in the United States. Our average teacher pay ought to be \$90,000 and our best teachers should be earning \$135,000 to \$150,000 a year so that they can make a choice between whether they want to be a doctor, a lawyer, a businessperson, or a teacher. It should not be an economic sacrifice to decide to become a teacher. Now a lot of people respond by claiming that would mean a lot of taxes. We are never going to be able to do that via tax increases. I ran the math on it. To double teacher pay in the United States is \$138 billion a year in new taxes. That's over \$1,000 a year for every household in the United States forever. It's not going to happen. So, if we're going to double teacher pay, we have to have a design breakthrough. What might we do?

Well, in the book I suggest the following: What if we only had half as many classes? Therefore we need half as many teachers and we pay them twice as much. Should we consider that? Now people go, "Wait a minute, now, what does that mean?" What I'm saying is that you have the same school day of six hours for middle and high schools but you have students in class three hours with group instruction and students in the school but working on their own the other three hours.

Now a lot of people immediately think, “Working on their own? Are you crazy?” By the way, if I didn’t actually run a school system that has 70,000 students in it, you might think I am crazy. But I actually do this for a living every day. If Edison were a school system, it would be the 48th largest in the United States. If I were a superintendent, I would be the longest serving head by a factor of a lot in the United States. Eighty percent of our children are below the poverty line, twice the national average. Eighty percent of our children are children of color. So I do have a little experience from which to suggest that what I’m saying might work.

The idea is that half of the day students are in class, and half the day they are working on their own. Let me give you an example of how it might work.

My son just started university, and I asked him one day, “How many hours a week are you in class?” He thought about it a little bit, and then he replied, “Eleven hours a week.” I said, “Ninety days ago when you were a high school senior, how many hours were you in class?” He thought about it and then he said, “Thirty hours a week as a high school senior.” So, in the space of ninety days, he became mature enough to be completely, largely, independent. [Laughter.] Of course, that is not what happened. He’s not any different in those ninety days. What this shows you is that colleges have a different design, and we might be able to import lots of different aspects of that design, including the concept of graduate students, who play an important role and we might be able to do it at high schools. We might even be able to do it in middle schools and doing it could accomplish two things. It could double our teacher pay, and another thing it can do is it can teach our children much earlier to be independent learners, which is probably the most important thing. Whether that idea is right or wrong, I don’t know. What I do know is that we should be spending \$9 billion to find out and to actually be doing the research and development on that kind of design and lots of other designs to see what our next generation of schools should be.

What this book asks our national political leaders to do is to step up and do this. Instead of the Department of Education being a national compliance agency—another way to say it is a national police force for public education in the United States—why don’t we create the NASA of education instead and say, “We’re going to be the invention wing of the public education sector”? I would point out to them that our federal government was created to do things that other sectors could not do. Cities cannot do this. They don’t have the scale to do this. It would be like Dayton saying they want to participate in the space race. Dayton can’t participate in the space race. It would be like the police force of Peoria being asked to create an aircraft

carrier. That's not reasonable. A couple of states might be able to do it, but for the most part states don't even have the scale to do it. And the private sector, meaning the K-12 private sector, is so fledgling that we don't have the capital to do this either.

America, you've got to step up to discover, design, and build the schools of the future. That's what this book is about. You've created Homeland Defense, what I'm talking about is Homeland Offense. We need to get on this soon.

That's my two bits.

[Applause.]

## QUESTION & ANSWER

**David Seely:** As one who has, for several decades, been recommending radical change of public education, it's really wonderful to see someone with your skills and background pushing for this. But there's one thing I'm not hearing—I haven't read the book, but everything you say makes tremendous sense to me, except for one thing. And that is, you keep talking about the new schools, the new design for schools, and a lot of us who have been working on this say, "That's not enough. It has to be education systems, not just schools." Kids learn not just from schools; they learn from a whole variety of institutions that have to learn to work together a whole new way. So I know that makes it much bigger, and you can say more difficult. I'd say, unless we face that and realize that what we are doing as schools had to fit into that, we won't make it.

**Whittle:** I'm thrilled that you ask that, and the reason is: I was giving you the Cliffs Notes version of the book. There is an entire chapter on exactly that point—that it is not just school design, but system design that we have to come up with here. The Feds have to attack as part of their research agenda not just site design but also system design. In three chapters in the book, I go out 25 years and describe what new systems look like and what new sites look like as well. Your point is well taken.

**Eva Moskowitz:** Thank you very much Mr. Whittle for your presentation. It's very nice to hear big ideas. I think we really need that in the school system. I guess, as I was listening to your remarks, I worry a little bit and I'm wondering how you respond. I mean, people in education reform circles would respond that they have new designs for schools. I am constantly meeting with people who have a plan and the Department of Education is parceling out nine schools here and six schools there. I assume you're talking about a larger scale and connecting it to R&D, but I guess I wonder if you can flesh that out a little bit. And then I also wonder, I guess what you didn't talk about is the monopoly of public education, and how that's going to potentially interfere with this R&D. I mean, if you go back historically to this country's investment in R&D, there was a whole system of competition set up in terms of the patent office and so forth. We don't have that as much now. I mean, we have it a little bit here in New York with the charter school movement, but it's still on a pretty small scale. And I was wondering how the monopoly might interfere with the big ideas or if there is a work around. Thank you.

**Whittle:** Two responses. One, you caused me to want to clarify something. America has a good bit of R in the world of education, and almost no D. And, by the way, I learned this week that the Rand Corporation's name comes from research and development. Anyway, there's a good bit of R going on, and that's studying, introspection, etc. What I'm really focusing on here is D. How do you operationalize and scale insight?

To your question, there is a great deal of what I would call "backyard" invention going on. I mean, Edison 15 years ago raised \$50 million to do research and development on school design, and a lot of people went, "That is a lot of money." I would reply, "That's nothing." How much did it cost to draw the 777 airliner? Answer: \$3 billion. How many people worked full time for three years to design it? Ten thousand. Ten thousand engineers for three years to design that. And when I think about what we have going on in school invention, and I don't mean to denigrate it—and I include us in it in that regard—it is amateur hour with regard to the scale. We have 15 million children we're not serving. Think about how we mobilized for Katrina and compare and contrast. There is no comparison.

**Henry Stern:** The point I don't get is just what you plan to do. For example, in English, teaching words in literacy, are you phonics, or are you whole words? Big Indian or little Indian? In Math, are you new math, funny math, crazy math, or old math? What precisely would you do in your educational program that would differ from what is currently being done? Is it simply a matter of having smarter and more motivated people doing it, and if so where will you find them? Or is it doing something different that hasn't been done before? And if so, what have you found in the last 15 years that's different?

**Whittle:** Okay. What I'm advocating that we do is comprehensive site and system redesign. And if you go back to the Boeing example: what did those 10,000 people do? They were divided into 260 design teams. Thirty of the design teams worked on the wing. Just on the wing, which is an important part of the airplane. What is the wing of schools? The wing of schools is reading. Meaning, you get it wrong, and nothing else works. If the wing doesn't work, it's not going to fly. What I'm advocating is we need the same kind of focus and dedication and resources to tackle every component of a school.

I'll give you another example. A design team consisted of almost 40 people. One design team worked just on the baggage bin. Forty people. What's the baggage bin in schools? It's the locker. And if you think about it, it's exactly

the same. It's noisy, it's dangerous, and you can't get anything in it. [Laughter.] And that's a little tiny item. Three design teams worked on how they laid out the cockpit. What's the cockpit of a school? It's the principal's office. It's all the information that's coming into the pilot. I mention this to principals, and they go, "I have no information, so why do they have to lay out the principal's office?" And so it's every aspect that needs to be looked at and designed and we just haven't treated it with the seriousness with which we've treated everything else.

**Stanley Goldstein:** First I will second the motion of Councilwoman Moskowitz, thanking you for using your talents on this important task of education. In your 260 design teams, suppose one was to look at education 40 years ago and tell us what changed from New York City's education from then to now, and why it went downhill.

**Whittle:** Well, that would actually be an example of the—and I may have my name wrong here—the National Aeronautic Safety Board, which completely examines every crash. Remember when Flight 800 went down? They completely reassembled it in a hangar out on Long Island to find out what went wrong so they didn't do it again. And they discovered that it was fumes in an empty gas tank. In every new iteration of that aircraft, they designed a device to take care of that. So, examination of what has happened is an important part of it. And unfortunately, that's not done either. But any great design team is going to look at that.

**Michael Myers:** This is not rocket science. I mean, you said that the student has not changed within 90 days of high school to the beginning of college. I suggest to you the student *has* changed, but not based on 90 days, but on four years of high school, and prior to that junior high school, and prior to that, elementary school. And you have to assume that the student, by the time the student gets to college, knows something, has critical thinking skills, has writing skills, reading skills, basic functional skills.

I suggest to you that college ain't what it used to be. It's like the future: it ain't what it used to be. Colleges now, professors complain, are not college—they're high schools. And so I suggest that the 15 million number that you are using with respect to functional illiterates is really low. In actuality that number is much higher because you have high school graduates who are, in fact, functional illiterates. You have college students who are functional illiterates because they don't have critical thinking skills, they do not have writing skills, and so my question to you is, what do we do in an era of lower standards? Even when students are passing these tests, these tests

are not testing for critical skills, they're not testing for writing ability. What do we do to make sure that the students, by the time they are finished with high school, are better than functionally literate, are capable of college and higher education?

**Whittle:** It's a great question, and one of the things we have to do is we have to change the standards. First, we need to ask what are standards? I think of standards as "specs." I use the following example a lot because I have to fly too much, but if you think about when the Department of Defense decides that they want a new generation of airplane, what do they do first? They say, "These are the specs." Your specs would be the ability to think independently. That's one of your specs, which you also have to figure out how to quantify as a spec. We have to ask what the new specs are for the 21st Century, not for the 19th Century. That's part of design. You start with what your requirements are and then you work from there. You are right; we don't have the right requirements right now.

**Eugene Lang:** I enjoyed your presentation and probably you said everything that could be said for what you believe in. But, I think basically, the problem doesn't start with schools. The problem starts with getting kids to *want* to go to school and to *want* to learn. Where does that desire start? The demography of New York, as is the case with most every major urban center in this country, has changed considerably. I know. I grew up in East Harlem, my parents were immigrants unemployed during the Depression, but nevertheless, they insisted as parents that I had to learn and learning was the key. Now there's nothing you can do with the school, really, to make a kid go there for the purpose of learning. You seem to disregard, especially with kids starting off, that the most important and constructive influence in the life of a child and the inspiration to learn is not what the school gives; it's what the parent gives.

And there is no question that teachers and schools are not in a position to be parents. It's tough enough to teach. And I really think that you are, in a way, setting up an objective—there's nothing unworthy about it, it's nice to have better schools, and newer schools—but it seems to me that doesn't really deal with the basic problem that we face, which is not a problem with facilities, but a problem of parents and psychology.

We recently celebrated the 25th Anniversary of the I Have a Dream program. We have found in our experience in focusing on what people can do with children if properly prepared to provide them the kind of caring, sustained support necessary, that they can do more than anything a school

can do. We have found in our program that for the average kids who go through our support program, the graduation rate has been never less, and in some cases a lot more, than 50 percent. That to me doesn't solve the entire problem because we always can worry about the kids that fail.

My point is that the experience we've had tells me that whatever you spend on education must include a focus on the individual people who need the most help if you plan to be effective.

**Fliegel:** Eugene, are you doing anything to get parents to motivate their kids to come to school and to learn?

**Lang:** Just let me say this. Many of these kids do not have parents, or at the very least these kids come from one-parent families—there are all kinds of combinations and circumstances. So it isn't just a question of speaking to parents. It's the absence of that parental support of a quality that all of us in this room probably had growing up.

**Whittle:** Three responses. One, I realize I may not have been clear on this. When I was talking about school design, I'm not talking about buildings and architecture. I'm talking about the entire programmatic aspect of the school.

*“...if you take all the philanthropy given to public education in the United States—all of it—it runs schools in America for four hours... that's why we've got to get it through the public sector, because philanthropy can't deal with the scale.”*

The second thing is that philanthropy is a terrific thing in public education, and all across this country it's making a difference. But, here is a very important fact: if you take all the philanthropy given to public education in the United States—all of it—it runs schools in America for four hours. Four hours. American giving to K-12 education is \$1.6 billion. We spend \$350 million per school hour. So, while philanthropy can be very important in seeding change—in doing terrific things, such as the I Have a Dream Foundation—the scale of this problem crushes philanthropy, and that's why we've got to get it through the public sector, because philanthropy can't deal with the scale.

One final thing, on the issue of motivation. You are absolutely right that motivation is crucial. But motivation has to be part of the school's job. There is a section of the book called “Systems of Hope.” I was talking with a teacher one day in Philadelphia; we were having lunch and I said, “What's your biggest problem every day?” She replied, “My biggest problem is a

loss of hope." I asked, "Your hope?" She said, "No, my students' hope." If a school doesn't help children find that, the school fails. If we say that's not the school's problem, then you want to know something? We shouldn't have the schools. Because that's not what Jefferson had in mind. Jefferson argued that we should take students from all walks of life, from any situation, and make it the school's job to get them to a level starting point no matter what their circumstances are. If we don't do that, we give the entire public education system a huge cop out.

**Sy Fliegel:** I would like to thank Chris Whittle for a thoughtful and inspiring talk.

[Applause.]

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## **CONTACT INFORMATION**

28 West 44th Street, Suite 300  
New York, NY 10036-6600  
Phone: (212) 302-8800 Fax: (212) 302-0088  
Website: [www.cei-pea.org](http://www.cei-pea.org)

Center for Educational Innovation -  
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28 West 44th Street, Suite 300  
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