Creating a Culture of Innovation
While Balancing the Budget:
A Conversation Between
Tony Wagner and William Skilling
Executive Summary

This discussion between Tony Wagner, author of The Global Achievement Gap and co-director of the Change Leadership Group at the Harvard Graduate School of Education, and William Skilling, superintendent of Oxford Community Schools in Oxford, Michigan, addresses the challenges schools face in addressing the global achievement gap while still balancing the school district’s budget.

The participants identify skills that are critical for students to learn in order to succeed in life after high school—whether they go on to college or careers—and become good citizens. They discuss how teaching and assessments will need to change if students are going to learn these skills, and they suggest that the focus of schools needs to change from teaching content to teaching these abilities.

Wagner and Skilling also address challenges that will arise during implementation of their suggested changes and discuss how to secure funding to make programmatic improvements. Finally, they take a look at other countries’ school systems to see how they are addressing the global achievement gap.
PDK ASKED TONY WAGNER AND WILLIAM SKILLING to talk about the global achievement gap, what we need to teach our students so they can succeed in life after high school, and the challenges of meeting these goals while still balancing a school district’s budget. Tony Wagner is the author of *The Global Achievement Gap* and co-director of the Change Leadership Group at the Harvard Graduate School of Education. William Skilling is the superintendent of Oxford Community Schools in Oxford, Michigan, and a featured speaker at the 2011 PDK International Conference on Innovations in Teaching and Learning.

**PDK:** Tony, let’s start with you. Could you define what you mean by the global achievement gap and tell us why this is something that U.S. citizens should be concerned about?

**TW:** Through my research I’ve come to understand that there’s a new set of core competencies that I call the seven survival skills that are absolutely essential for careers, college, and citizenship in the 21st century. These are critical thinking and problem solving, collaboration across networks and leading by influence, agility and adaptability, initiative and entrepreneurship, effective oral and written communication, accessing and analyzing information, and curiosity and imagination.

Students who leave high school without these skills are going to be sentenced to a lifetime of marginal employment and, I would argue, marginal citizenship as well. Additionally, they’re not going to be prepared to be lifelong learners. So the global achievement gap, then, is the gap between the new skills all students need for careers, college, and citizenship versus what’s being taught and tested even in our very best U.S. schools.

**PDK:** Bill, what would you like to add?

**WS:** I believe the greatest challenge we face in K-12 education is preparing students to work and live successfully in a global world that’s changing 24/7. To be successful, we need to address the global achievement gaps that Tony has identified in his book and other writings. That’s what we’re striving for right now in our school district. We’re trying to figure out how to best prepare our students for a global world that changes 24/7, given the different parameters we face.

**PDK:** If you had to pick just one or two things, what do you think is most important for students to learn so that they can succeed in an ever-changing, global world?
WS: It is hard for me to come up with just two succinct ideas that encapsulate many of the learning outcomes that would be essential for students to know. But I think the first one would be the ability to synthesize information, to be able to evaluate and to think critically, analytically, and creatively to problem solve across multiple disciplines, in unpredictable situations, and in areas in which students are totally unfamiliar. This is foundational: to get our students to the point where they can create and invent. To me, this is one of the most fundamental global skills that I believe it is essential for students to master.

Second, a quality that students need is a sincere appreciation and understanding of diverse cultures and beliefs and the ability to work with internationally diverse workers in both a physically present and virtual environment. As a part of that, they need to understand their role as both an American and as a global citizen.

TW: I think Bill has said it extremely well. For me, one way to encapsulate it is that it’s not one thing—it’s the four C’s. It’s critical thinking. It’s communication skills. It’s collaboration, and it’s creativity. In a sense the best problem solving is creative problem solving, and that’s how those two kind of go together. But I would add one other thing which is, I think, important to this conversation because not only is there a global achievement gap, there is increasing-ly a gap between how students are learning and engaged out of school through use of technologies versus what they’re expected to do in school. Kids today are bored out of their minds in school. They tend to play the game of school, to go through and to just do the minimum. I think that as much as there is a learning gap, there is a motivation gap. I think it’s also important for students to have opportunities to explore and develop a discipline around a passion, a genuine intrinsic interest. The students who leave high school having had opportunities to really explore their interests and deepen their interests through disciplined inquiry or disciplined practice are going to have a consistent advantage over students who merely have learned how to score well on tests.

WS: I concur with that. If I might add something in relation to the overall technology—I mean no
disrespect in how I phrase this—there’s really two types of students that we have in our classrooms today: students who truly have attention deficit and those who act like it. There’s this misconception that schools are too challenging and the standards are too high and that’s why kids are failing. It’s just the opposite. The world which our kids are engaged and learning outside of school is the real world. They’re using technology to be challenged and to be engaged. They’re used to getting responses in a second, not two weeks, not two days, and not even two hours later. We need to create an environment in which our students are actively engaged and challenged in a very dynamic classroom environment, and we don’t have that today. We have teachers still teaching at wagon train speed while we have students’ minds going at supersonic speed. These kids who act like they have attention deficit disorder but don’t are disengaged because of the slow pace and the lack of challenge that they face in their classrooms on a daily basis.

**TW:** I would add that I think teachers understand that kids want to be entertained more than they want to be bored, but what many teachers don’t understand is that students today want to be challenged even more than they want to be entertained.

**Changing Classrooms**

**PDK:** What changes should we make in our classrooms to engage and challenge students?

**WS:** We need to understand how we can use technology to improve teacher effectiveness and teacher efficiency and engage students in a higher level of learning. Back in the early ‘90s, we wrote a cell phone policy that totally eliminated cell phones from our schools and gave us the authority to destroy a cell phone. A couple of weeks ago, we wrote our new cell phone policy for my current school district. It is probably one of the most liberal you’ll ever see, because all of these social network tools that our students use today can become learning tools in the classroom.

We need to use technologies that allow students and teachers to access any information anywhere,
any time, so that learning can happen on demand. Teachers are now creating hybrid courses in which the teacher’s lesson is being captured through video every day and posted to a website so that a student could go home and repeat that lesson if necessary, or if a student wants to take that class virtually, they can.

We have to create an environment that is like a video game. I don’t mean this from an entertainment perspective. I mean it from a learning perspective. A video game sends multiple streams of information to a student simultaneously. Contrary to most people’s understanding of video games, they’re designed for the user to fail, not succeed. If they were designed for the user to succeed, there would be no interest in the game itself. The multiple streams of information coming at students cause the mind to work differently, to be able to process and discern information more quickly and come up with the correct response in a short period of time. Part of the hook for the student is getting that instant response so they know if they have succeeded or failed.

Contrast that to a school environment, in which the time between assessment and getting feedback can be very long, to the point where the assessment no longer becomes the learning tool that it was intended to be. By using technology, we can now provide instant feedback, we can check for understanding for all students without putting students on the spot, we can give students and teachers access to all of the information, and present that information, manipulate that information, and discern that information to problem solve in areas in which the students are totally unfamiliar. That’s a dynamic, engaging environment.

Second, every room has to be virtual. We need to create the conditions where our students are virtual members of international project-based learning teams, not just domestic teams, and sometimes this requires different hours of the day. Our students need to learn to interact seamlessly and comfortably with kids globally in both a virtual environment and in a physically present environment. Collaborating effectively cross-culturally and bilingually in a virtual environment is a new global work skill of the 21st century. This is one reason why virtual learning environments are very important for every classroom.
TW: I do agree with that. I think we do have to bring the technologies into the classroom, because that’s how today’s students are learning and are engaged. But I also think that technology is a double-edged sword. The latest Kaiser Family Foundation Study indicates kids ages eight to 18 are spending about seven hours and 38 minutes a day on electronic devices, and that’s after they’ve done schoolwork. I concur that technology is a vital tool for learning, and I also think students are going to have to learn the uses and abuses of multitasking from adults. They’re going to have to learn from adults how to sustain concentration on a project over time. And that, like doing a research paper, is old technology and not new technology.

Having said all of that, I would start in a slightly different place without disagreeing at all. From my point of view, the first problem schools and districts face is the problem that what gets tested is all that gets taught in most classrooms, and as my business friends have taught me, having the wrong metric is worse than having none at all. I see over and over again schools and districts that may make Adequate Yearly Progress (AYP) but are failing their students. They’re failing their students first and foremost because they’re not graduating them from high school because they’re not being held accountable for that yet. And they’re not even being honest with their constituent groups about the real graduation rate.

Second, they’re failing their students because even if students make AYP and even if they graduate from high school, they’re not graduating career-, college-, or citizenship-ready. One out of every two students who starts college today never completes any degree at all. From my point of view, the challenge for improving instruction is to begin with a real clarity about the results that we need. We need to start with attainment, not AYP. And attainment means to me 100 percent of students graduating career-, college-, and citizenship-ready and having the choice whether to go to a college or a career or technical school. Once we’re clear about that outcome and that’s what we’re holding ourselves accountable for, that high standard, then we can ask this question: what are the skills that students are
The real shift, especially at the high school level, is to understand that content is not the end, content is not king, content is not the goal. It is no longer about mastering content. It’s about developing the skills needed to do what increasingly the world demands, which is just-in-time learning, or taking a new problem, a new set of questions and challenges, and as a team, finding the latest information or knowledge and applying it.

It’s about competencies, not coverage. It’s about attainment, not AYP, and those two go together. That’s the real challenge in terms of not waiting for the next generation of assessments, which we will have in five years. The tests that we have today are obsolete. They’re going to be gone in five years, but we can’t wait that long. We have to start holding ourselves accountable now for the skills that matter most.

Changing the Educational System

**ws:** If I could give a practitioner’s perspective of trying to act upon what Tony’s talking about, one of the things that I talk about with my own colleagues is that our biggest challenge in education today is knowing what to teach more than how to teach well. I would argue that probably the biggest disconnect in American education is that we’re not teaching all the right things and we’re focusing too much of our efforts to have kids pass achievement tests that are testing at a knowledge/awareness level of learning, which is in essence setting our kids up for failure upon graduation. They will not be functionally employable to work in a globalized world.
For us to teach the right things, it requires school administrators to take great risks, and therein lies the problem. Once you start changing the educational system from what parents and grandparents understood and knew when they were in school, that’s when you start getting the pushback and people being very concerned and upset about what is going on with the educational system. They’re thinking that we need to get back to the basics. One of the biggest disservices that we’ve had in this country is this greater and greater movement toward higher-stakes standardized testing that narrowly defines what the scope of education should be and totally disregards all of the diverse talents that our kids bring to school every day that are very important. That’s another piece.

One of the things that we need to do for superintendents like myself is we need to be trained effectively in how to practice successfully not only strategic planning but strategic intent. We need to help administrators understand that to practice strategic intent and to be a visionary school leader, two things will always be in place. Number one is that we will never have enough money to make the vision a reality when we first set out. Number two is that we will not have any of the other resources in place to make it a reality. If these two things were not true, it wouldn’t be a vision.

When you tie that into strategic intent and define it succinctly, it’s looking at the leading indicators of change in our world around us—globally, nationally, statewide, and locally—and asking ourselves as educational leaders, based upon what these leading indicators of change are telling us, how is that going to impact the essential knowledge and skills our kids need to have?

But this is not the type of critical thinking and discussions that are taking place enough at our level, because there’s too much of a fear factor involved in those leading school districts. Many superintendents are not willing to be change leaders. Given where many of us are in our careers and understanding that a change agent superintendent only lasts about 2.7 years on average, it is too risky.

Changing Teaching and Assessment

**TW:** Scary thought. I agree that the challenge is to really understand what matters most and also to access what matters most. I think it’s extremely important that districts think about every student having a digital portfolio that follows the student. The software for this is free. Students choose work or projects that show progressive mastery of critical thinking, collaboration, communication skills, and so on. It engages students in assessing their own learning and publishing their work for real audiences.

We consistently find that this is a two-for-one: it helps to focus assessment on the skills and it provides teachers with student work to look at and assess. The question becomes, “What is led by quality teacher work?” or “What is behind quality student work?” Second, it is far more motivating to students because they have a real audience for real products, and they can use videos and research papers and so on to show evidence of progressive mastery. That’s how we begin to take this back into the classroom in a very concrete way.

**PDK:** You’ve brought up two things that I want to follow up on. One is how teaching would have to change, and then the second relates to the budget and fiscal responsibility. Let’s start with teaching. It seems that to do these things you have both talked about, teaching would need to change dramatically. What kind of changes need to take place in our teacher education programs, and how do we support practicing teachers?

**TW:** Finland is the highest-performing country on all of the Program for International Student Assessment (PISA) tests, and it has the smallest gap between highest- and lowest-performing students within a country. Each achievement by itself is remarkable, but both together are truly extraordinary. They did that by focusing on changing the role of the teacher from an assembly line worker whose work is usually done in isolation to a knowledge worker whose work is done as a part of a network and in collaboration.

I think that here in the U.S., that translates to less emphasis in the short term on formal processes of teacher evaluation, which has been shown to be useless, frankly, in terms of improving instruction, and much more emphasis on collaborative inquiry.
around lessons, lesson analysis, and lesson study. We have to make our work as teachers and as supervisors of teachers both at the university level and in the school level far more transparent.

The most disruptive technology that I would like to see more widely used in schools is the flip camera. I think we need to get into the routine of videotaping lessons, of videotaping coaching sessions with teachers, and even videotaping adult meetings to try to understand what quality adult work looks like and, more important, how do we create collaborative inquiry to improve the quality of our coaching, our meetings, and our lessons?

**WS:** Yes, I concur with Tony. One of the things that we’ve done structurally to help facilitate teacher collaboration is instituting weekly common planning time this year for all teachers. From a financial and logistical standpoint it was difficult to do, but we put the resources behind it to make it happen because of what Tony just described.

The other initiative we have embarked on that is helping to drive collaborative inquiry is that our entire district is going through the International Baccalaureate (IB) World Schools accreditation process at the same time. That’s never been done anywhere in the world before, according to a regional representative of IB. That helps foster the type of collaboration among teachers that Tony’s describing.

It brings up another point, which is that the whole merit pay perspective takes us away from what Tony’s describing. That’s going to disrupt collaboration and teachers working together. What I’m suggesting is that we need to create the environment in which collaboration is fostered and rewarded. We look at how we’re doing collectively as a building and school district versus how an individual teacher may or may not be performing. One thing we have to understand is that not all teachers are working with the same types of students. Students come with different aptitudes, motivational levels, interests, talents, and various degrees of family support. Helping students achieve their maximum potential can be more effectively accomplished when teachers collaborate with one another versus becoming isolated through a merit-pay system.
**TW:** I think that’s exactly right. We have to stop thinking about accountability systems that incentivize individual teachers teaching to the test. These tests tell us little or nothing about the skills that matter most, and that only further exacerbates the problems of teacher isolation and test prep curriculum. That’s the road we’re headed down, and it’s a dangerous and foolish road. It is contrary to the research. It is contrary to best practices in world-class education systems like Finland, and I think it is a very, very serious mistake. It is also disrespectful to teachers, who are not mainly motivated by money. I think it is all about collaborative inquiry for continuous improvement and not about paying teachers for better test scores. I am deeply, deeply disappointed at the directions that I see being taken by Race to the Top and the kinds of carrots-and-sticks systems it is trying to put in place.

**WS:** I concur. I believe if we focus on the real challenges, even such things as gaps between different-performing groups of students will be backfilled if we address the issue of high standards for all students. A standardized test cannot measure how well students can problem solve across multiple disciplines, in unpredictable situations, and in areas in which they’re totally unfamiliar. You’ll never see a standardized test that comes out and measures those types of things, but those are the things that our kids need to be able to do to function successfully in this global world. That’s why we are moving away from the point of even focusing or preparing our students any longer for standardized testing. We believe that by focusing on the real standards that students need to achieve, the real skills they need to acquire, and the real knowledge, those things will just take care of themselves.

**TW:** I think it’s wonderful that your district is so focused on IB. I regret not having spent more time discussing that program in the hardback version of my recent book, but I did correct that in the new last chapter for the paperback version. When you contrast the requirements for International Baccalaureate with the Advanced Placement curriculum, which is the gold standard for many, you see some really significant differences. For example, you could take an entire Advanced Placement course and never write a research paper, but you have to write a 4,000-word research paper for the International Baccalaureate curriculum. Second, you have to do an interdisciplinary course on theory of knowledge. Once again, you could go through most high schools and never take an interdisciplinary course, but when I recently interviewed the director of talent at Google about the one thing schools could do to better prepare young people for the new world of work, she said to me, “Teach them that problems cannot be solved within the context of a single academic discipline. Teach them to work across disciplines.”

**Balancing the Budget**

**PDK:** If we could change topics, I’d like to talk about the financial end. Bill, as a superintendent, you know the importance of balancing the budget, especially in these tough fiscal times, but yet you found that it’s better to add opportunities for students rather than to cut programs. Could you tell us about that and about how you get community support?

**WS:** In Michigan one of our biggest problems is what I call a “Proposal A mentality.” The term Proposal A comes from our funding system, which was enacted in 1995. The more students you have, the more funding you receive because the funding follows the students. On top of that, schools that had higher levels of funding at the time Proposal A passed were allowed to maintain those levels of funding. What you also have is a gap between schools like mine at the lower end, in which we receive about $7,300 per student, versus a school down the road that may receive $15,000 per student to educate their students. But yet, we are all part of the same public school system in Michigan.

I think one of the things that we have to understand right away as educational leaders is that the lack of money is not our biggest challenge. The lack of money has never been our biggest problem. In my 31 years of education, every year I hear educators use the excuse that we do not have the money, no matter if the economy is robust or weak. They
are allowing money to drive vision versus vision driving revenue. We become desensitized to the point that we think that our role now is to balance the budget. We have lost track of why we exist, and that is to prepare kids for a global world that is changing 24/7. We need to provide the best education and the best opportunities possible to make that a reality. We tend to want to be survivalists: we want to survive in our jobs, we want to keep our district in balance and the budget in balance, and we do that at the expense of cutting student programs.

I argue that more than ever before, parents are willing to sacrifice time and resources to ensure that their student gets the best education possible, even though they have less resources today to do that than they did five or 10 years ago. The reason is because they get it now: they understand there is no room for error. They understand that just getting a high school diploma will set their kids up for poverty if they do not further their education or if they do not get the right education.

As a school district, we have gone against conventional wisdom in our state. Being at the lowest end of the funding, we are the only school district in our area that has not cut student programs unless that program was not of high enough value to achieve our goals. We have expanded our fine arts programs. We have done things such as eliminate pay-to-play for athletics, and we don’t charge students to attend performing arts events and athletic events. As a matter of fact, that became a national story. The reason it became a national story is because while everybody else is charging students to play sports or increasing those participation fees, we not only stopped that practice, but we paid our parents back. We sent $80,000 home to the parents and said we are never going to do this again.

We have invested in IB programs districtwide. Why has it never been done anywhere in the world where every single building is going through the IB accreditation process at the same time? It is because educational leaders say we cannot afford it. Why is it that we have the only nine-year world language proficiency program in Michigan in which every student is immersed in mandatory world language instruction from kindergarten through eighth grade? Because educational leaders

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leaders say they do not have the money. We can always use that as our excuse. Instead, we should create a powerful vision, create an action plan to achieve that vision, and then focus on creating new revenue streams to make it happen.

So what is the result of instituting these changes and adding new programs? I only gave you two examples of the changes, but there are many others. Our enrollment is at a record high. We are one of the few school districts in the entire state that is growing. We have had three consecutive record-high fund balances against the backdrop of the worst economy in my lifetime, compared to many school districts that are dipping into their fund balance or operating in the red. We have not operated in the red. We have not had to dip into our fund balance. We have only been growing it. It is because we have chosen to invest in education, and as a result of that we are getting families to move to our school district.

I had two developers stop in to see me last spring to thank the school district, because every house in their development is now sold. They said it was directly the result of what we have done to improve the educational opportunities in our school district. And for the first time in a few years, we are seeing some new homes being built in our community.

Michigan is ranked 49th or 50th in the United States in terms of its economy. Our district is in the best financial condition it’s been in the history of the school district. Prior to 2007, we had six years of program cuts. The district had cut the entire world language program within the elementary schools. I believe if you want to increase the health of your district, you need to focus on teaching the right things, invest in innovation, and invest in new educational opportunities to meet the needs of all students, and people will come.

PDK: What revenue streams were you able to identify?

WS: Well, obviously the number one revenue stream is through student growth. As a result of student growth, your revenues go up in Michigan. Our per pupil foundation grant that we receive from the state has been cut the last few years, so the only way you really increase your revenue is by growing your student population.

The other is through partnerships with companies such as Cisco. Cisco has been a big partner. We have put in about $1.25 million of technology that we did not pay for because of our partnership with Cisco. However, we did invest a significant amount of money for additional technology as well. We are members of Automation Alley here in Oakland County, and we are the only local school district to be a member. Automation Alley is a group of business leaders who are focused primarily on bringing more business to this county, but they understand that the way to do that, too, is through improving the educational system in Oakland County. Their focus is to bring more international businesses to this county to support the automakers that we have here, because the headquarters for GM, Chrysler, and Ford are all located here. We also have an expanding hospital system here. They have helped to recruit international companies that provide medical technologies and equipment for these hospitals to relocate in our tri-county area.

Automation Alley has supported us in our global education initiatives, and they have requested to use our school district in their new marketing video as a model that they want other school districts to follow in terms of preparing kids for a global world. One of our global education initiatives that they especially appreciated is our Mandarin Chinese program, because there are companies from China locating in our county. We have over 2,100 students now in our Mandarin Chinese program. Because there is such a strong desire by our county government to bring Chinese businesses here, we have families from China that are relocating to our tri-county area to work. Our population is growing and the need to know Mandarin Chinese and understand that culture is very important, and we want to see it in all of our schools. We have a nine-year Mandarin Chinese requirement for students as one of our world language options.

Creating a Culture of Innovation

PDK: What you’ve described is a culture of innovation that you’ve been able to create. That’s something that Tony also talked about in his book,
The Global Achievement Gap. I was wondering, Tony, if you wanted to add some ways that schools can go about creating that culture.

TW: Well, let’s back up half a step and try to understand why innovation is so important. Companies like Microsoft spend about 17 percent of their budget on research and development. Even a manufacturing company like 3M spends six percent of its budget on research and development. There is no innovation without research and development. Education has no R&D budget. The kinds of grants that were recently given out for so-called Investing in Innovation Fund (i3) by the U.S. Department of Education, in my view, don’t qualify because the bulk of the money went to proven organizations, which is not in any sense the spirit of R&D. R&D is trying to create new knowledge. Bill’s leadership is clearly outstanding, and bringing the whole district along is extraordinary.

I think that many districts would benefit from having what I call laboratory schools that would be schools of choice, charter-like schools. In Michigan, clearly, there is tremendous competition with charter schools. I think districts are going to have to get into that competition by sponsoring their own in-district charter schools of choice that are consciously and intentionally a laboratory for developing 21st century teaching, learning, and assessments. These are schools of choice that parents, teachers, and students can choose to attend that are held accountable by the same high standards and have the same budgets but which are really given permission to continue to develop better ways of teaching, learning, and assessment.

We have to do this for two reasons. We need the laboratories to create the innovations. But second, we are going to have to retain these new, young, bright teachers, many of whom leave the profession. Fifty percent leave the profession after the first five years, and in my experience many of these teachers are leaving for the same reason that kids mentally leave their classroom: they’re bored. They’re tired of just being assembly line workers. They want new challenges and new opportunities to learn. They want to work more collaboratively. And so the laboratory schools, I think, are a benefit for the larger district in terms of discovering new ways of doing things and making that work transparent and accessible. It’s also a way to keep some of the most talented young people from leaving the profession.

WS: I totally concur with that. I want to make a point, though. I’m looking at our whole district as being a laboratory district. Let me tell you why that’s important. I’ve seen many districts create a magnet school, and they’ll say this elementary school in our district is IB. Another elementary school is going to have a strong focus on the arts. A third elementary school is going to be multi-age building. It creates a tremendous amount of confusion, anxiety, and stress in parents when you start going down that path. As a parent, I’m wondering what is the best education for my child? What does my child need to be able to succeed in this world? Are the arts important? Absolutely. Is IB important? Absolutely. Does multi-age work? Yes, for some kids it is great, and for some kids it may not be as effective for their learning.

The point is what we’re trying to do as a district is truly create a laboratory district and say what do we believe all kids need? What are those skills? What’s the knowledge that all kids need? Let’s do it for all kids. That’s why our IB is not in one building. I don’t understand why a district will say we are going to have a primary years IB program but not a middle years program and a diploma program.

TW: I know.

WS: So these kids go through IB for their first few years of schooling and then it is no longer available. So why? Why did we do it? Likewise, at this building we are going to have a world language immersion program, but other students may not have access to it because it is not offered in their elementary building. If world language is one of those critical global skills that students need, then why aren’t we providing it for all students? Our experiment as a laboratory district is that we are identifying all of those things that we think are important and providing them for every student. It does not matter if the
student has special needs, if the student is at the top of their class, or where the student falls with his or her ability, aptitude, or motivation level. Every student is getting the same educational opportunities.

We also instituted a pre-engineering program that starts in sixth grade. Every student in the middle school goes through that program for three years because that is one of the best learning environments to bring multiple disciplines together to problem solve in unpredictable situations and in areas in which they are unfamiliar. That’s one of those laboratory-type environments in which students can start to learn how to create and invent, and it is required for all kids. It is not that we are trying to prepare all kids to be engineers, but there are a lot of skills and learning processes that are taught in that pre-engineering environment that all students need. Then we continue it for students through high school who want to continue in those pre-engineering courses because they have an interest in being an engineer or architect.

**TW:** Well, I just admire the courage and leadership of someone like Bill. In my experiences they are very, very rare. I completely agree that the best strategy is for the district to think of itself as a hotbed of innovation. But that takes a kind of courage and leadership that, in my experience, is extremely uncommon. And so I talk about the idea of laboratory schools as a way for the more cautious leaders to edge into this work, not through compliance, not requiring teachers to do x or y, but by showing people a better way.

The problem we have is that we are asking many teachers and parents to move from a system that is all they know and all they’ve ever known, all their grandparents knew, to a system that for the most part they don’t yet understand and they have never seen. I think we’re going to have to create existence proofs, unless of course you’ve got some of the public will and the courageous leadership that Bill obviously represents. Otherwise one has to do that more in stages.

**WS:** I agree with you, Tony. I wasn’t disagreeing with you either, by stating we were implementing all of our changes districtwide. We are small enough

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to implement our educational initiatives districtwide. We have just under 5,000 students.

**TW:** That’s very different than a large district of 80,000, which I think you can’t transform in the ways that you’ve described, all at once.

**WS:** It would be very, very difficult to do, to try and pull that off. I have to confess this too. When I go out to talk about the things we are doing as a school district, I always tell my audience this because I do not want them to misunderstand who I am or be disingenuous. What I mean by that is this. When I speak to people, when I speak to my staff, I’m confident. I’m telling them we have to stick to the plan. The plan’s working and here’s the indication of that and I encourage them and keep them fired up. When I go home at night, I have anxiety attacks. I worry about whether I am doing the right thing, I’m second-guessing myself. I do not show a lack of confidence publically. But I always tell people that because I don’t want to be disingenuous and let people think that Bill’s just an overly confident person. He just does this stuff and doesn’t worry about it. Not true. Not true at all. It’s high-stress. Are there people in the community who are against these changes? Absolutely. It’s with great risk you do these things. But I believe that we are in this position as caretakers to do the very best, based upon the information we have. We know what our students need to have: the knowledge, skills, and so forth. It is incumbent upon us to do the right thing, morally and ethically, in spite of the cost.

**TW:** Amen to that. I wish we had more leaders like Bill. Even if you follow the more incremental strategy that I recommended by creating lab schools, you still need a leader who, as Bill has already said, is not just saying that this is the school of choice. In fact, they should be saying that this is the laboratory that’s going to develop the methods that we’re all going to be using in five years, and the people who do this first will become the coaches and the trainers of those of us who follow along.

**PDK:** If someone is a classroom teacher, and they’re working in a district that is not following
this model, are there things that they can do within their classrooms to try to help students develop some of these critical skills?

**TW:** Absolutely. I was a classroom English teacher for 12 years, and what I learned is that each individual teacher has to figure out what the few essential competencies are that the teacher expects students to master by the end of the year and how they’re going to be assessed, and then plan backwards. Design units of study where the teacher is really trying to pare down the content to what is really fundamental and critical, and this is again an argument for collaboration. Individual teachers should not have to figure out all by themselves what is important to teach in U.S. history or any other subject. I think teams of teachers can do that best.

Nevertheless, the point is that a teacher or teachers figure out what the essential content is and how to use it to engage kids’ minds and how to design assessments that will tell them not what kids have memorized—that’s useless—but rather how they think and how they can apply what they’ve learned to new questions or problems. That’s something every individual teacher can do. It’s a discipline, thinking about what’s important and how to align a classroom to what’s truly important.

**WS:** I don’t know if there’s anything more to add to that, but I concur.

### Attaining World-Class Achievement

**PDK:** We talked a lot today about schools in the United States, although Tony did mention Finland earlier. I was wondering how schools outside of the United States are doing with the global achievement gap. Tony, could you tell us about that?

**TW:** I have had an opportunity to observe two other high-performing systems in the last year and a half: Taiwan and Finland. They’re achieving results by going about it in totally opposite ways. Both have a fairly centralized ministry of education and a centralized curriculum, but the Taiwanese approach is what I would call the cram approach. Kids go to school for 10, 11, or 12 hours a day. Then they come home and go to cram school. They are cramming first to get into the right high school and then to get into the right college. The result is that suicide is the number one killer of adolescents in Taiwan. When I did a focus group with eighteen year olds, they told me they’ve memorized things they didn’t understand, they had no idea what their real interests were, and they were headed off to college, which was frightening to them. They had no opportunities to develop their own voice and to hear from peers. I think that’s a high, high cost to pay for high performance.

Finland is the opposite. It’s a country that’s much more heterogeneous than most people realize. It’s approaching a 20 percent immigrant population. There are 45 languages spoken in Helsinki schools today. It is a system where kids do less homework every week than in many schools. Three hours a week is what kids were doing in the ninth grade of classes that I observed. They are also starting school at the age of seven, although there’s universal play preschool that is focusing on socializing kids. And yet they are the highest performing system in the world. What’s their secret?

Teacher quality is number one. They are relentlessly focused on how they select and prepare teachers to be scientists, to think of each one of their classrooms as their laboratory for continuous improvement.

Second, they have a system that is much more intraspaced in terms of how they engage kids. Kids are doing challenging and interesting work at very young ages. I observed a unit for second graders where they were learning about different sources of energy, the difference between renewable and nonrenewable energy. But here’s the hook. After several weeks of study, students were asked to write and then prepare a puppet show demonstrating what would happen if the electricity went out in their house. They’re bringing in the arts and asking students to apply what they’ve learned through artistic ways.

We see this again in the upper secondary, grades 10 through 12. One-third of the students’ courses are electives. Students have far more choices in
When you go down this path of wanting to change and you want to start aligning your instructional practices and your curriculum with what you know to be right... you will have failures, you will have push back, and you will not have enough resources to accomplish your goal.

Final Thoughts

**PDK:** Would each of you like to offer some closing thoughts?

**WS:** I would just like to say to superintendents that might read this article that they should not fear failure and they should not fear persecution or push back. When you go down this path of wanting to change and you want to start aligning your instructional practices and your curriculum with what you know to be right, based upon the leading indicators of change and what we need to do to best prepare
our kids for a global world, you will have failures, you will have push back, and you will not have enough resources to accomplish your goal.

I think one of the greatest attributes that a good leader needs more than anything else, besides character, is knowing what to do. It’s not necessarily knowing how to do something. It is knowing what to do. And if you know what to do, you can always find people who know how to do it and do it well. What’s helped us in Oxford is that we’ve brought in people of significance, people who are highly respected in their respective fields, who have been talking about the mission and purpose of our district and saying it is where we need to go. That has helped us greatly in our mission to move forward with our vision to prepare kids for a global world that’s changing 24/7. In fact, our vision statement is “creating a world-class education today to shape tomorrow’s selfless, global leaders.” Selfless is important to us because there is so much focus on having kids feel better about themselves. The best way to do that and instill confidence in students is to get their focus off themselves and onto others. A person who has truly learned how to serve others and serve well doesn’t lack confidence. These aren’t people who are worried about self-esteem. That’s one reason why it’s important to help kids become selfless, global leaders and see themselves as global citizens, not just Americans.

**TW:** To try to summarize some of the themes from my point of view, we need to understand that the problem is not school reform. It is reinvention, reimagining, which is a very different problem. The Einstein quote that is my favorite is “The formulation of the problem is often more essential than the solution.” We’ve been trying to solve the wrong problem for the last quarter of a century. We’ve been trying to incrementally improve existing schools, and we’re getting nowhere. The challenge is to understand that in this new world, all students need new skills and kids are differently motivated. Solving that equation requires more than incremental change, and clearly Bill is a wonderful example of a leader who is doing far more than that in his district.

Once you understand the problem and you’ve formulated the problem correctly, the solving of the problem requires three things conceptually. Number one is holding ourselves accountable for what matters most. The schools that aim beyond AYP, the schools that aim—as Bill’s do—to teach all students new skills and to prepare them for careers, college, and citizenship not only outscore the schools that are merely teaching to the test, but far more important, they’re giving students hope and they’re giving them the skills they need to succeed. So that’s the first point: holding ourselves accountable for what matter most, attainment, not AYP, and the skills that are needed for attainment.

Second, it’s to do the new work of coming together to design units of study and assessments of the skills we’ve been talking about today: critical thinking, communication, creative problem solving, and collaboration. We need to do the new work of teaching these core competencies using rich and challenging academic content.

And finally, it’s to do the new work in new ways. Isolation is the enemy of improvement, as Anthony Alvarado used to say. I would add that isolation is also the enemy of innovation. Teachers are going to have to work far, far more collaboratively, as are administrators at every level, for us to do this new work and succeed.
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