



# Building a 21st Century U.S. Education System

*Executive Editor*  
*Bob Wehling*

*Associate Editor*  
*Carri Schneider*

Published by the National Commission on Teaching and America's Future

2007 Copyright © 2007 by Robert L. Wehling

# Contents

<b>Foreword</b>	<b>12</b>
<i>Bob Wehling, Building a 21st Century U.S. Education System</i>	13
<b>Voices from the Field</b>	<b>22</b>
Chapter 1: <i>Rebecca Palacios, Education and Freedom</i>	23
Chapter 2: <i>Arlene Ackerman, Sustaining School District Success: An Urban Superintendent's Reflections</i>	27
Chapter 3: <i>David Hornbeck, The Missing Ingredient in School Reform: A Political Base</i>	32
<b>Preparing and Supporting 21st Century Teachers</b>	<b>45</b>
Chapter 4: <i>Thomas G. Carroll, Teaching for the Future</i>	46
Chapter 5: <i>Arthur E. Wise, Teaching Teams in Professional Development Schools: A 21st Century Paradigm for Organizing America's Schools and Preparing the Teachers in Them</i>	59
Chapter 6: <i>Linda Darling-Hammond, Building a System of Powerful Teaching and Learning</i>	65
Chapter 7: <i>Barbara Kelley, Teacher Recruitment, Preparation, Induction, Retention, and Distribution</i>	75
Chapter 8: <i>Ken Howey and Nancy Zimpher, Creating P-16 Urban Systemic Partnerships to Address Core Structural Problems in the Educational Pipeline</i>	87
Chapter 9: <i>Carri Schneider and Ted Zigler, View from the Trenches: Two Practitioners Reflect on the Need for a National System of Educational Leadership Preparation</i>	99
<b>Political Context of 21st Century Education</b>	<b>109</b>
Chapter 10: <i>Diane Ravitch, Ensuring Access to a World-Class Education</i>	110
Chapter 11: <i>Bob Sexton and Jacob Adams, Changing the Dynamics of Educational Governance: Why Improving America's Schools Requires More than Changing Who's in Charge</i>	112
Chapter 12: <i>Jim Hunt, Making Politics Work to Dramatically Improve American Education</i>	116
Chapter 13: <i>Richard Riley, Charting a New Course in American Education</i>	123
<b>Education and the Global Economy</b>	<b>128</b>
Chapter 14: <i>Ed Rust, Education and the Economy</i>	129
Chapter 15: <i>Kent Seidel, The World is Flat, and U.S. Education has Flat-Lined: Designing an Information Infrastructure to Support a Globally Competitive Educational System</i>	135
<b>Creating 21st Century Learning Organizations</b>	<b>150</b>
Chapter 16: <i>Mary Hatwood Futrell, A Nation of Locksmiths: Transforming Our Education System to Guarantee All of America's Children a Quality Education</i>	151
Chapter 17: <i>Peggy Siegel, Transforming Education: In Search of a 21st Century Solution</i>	160
Chapter 18: <i>James Kelly, Looking Back, Thinking Ahead</i>	170
Chapter 19: <i>Chad Wick, The Meek Shall Inherit the Public Schools: Who Will Be Left Behind in the Learning Economy?</i>	179
<b>Conclusion</b>	<b>189</b>
<i>Bob Wehling, Together We Can</i>	190
<b>List of Contributors</b>	<b>193</b>
<b>Appendix</b>	<b>203</b>

## Transforming Education: In Search of a 21st Century Solution

*Peggy Siegel*

*“This is a story about the big public conversation the nation is not having about education...”*

*Claudia Wallis and Sonja Steptoe, “How to Bring Our Schools Out of the 20th Century”*

*Time Magazine, 12/18/06*

*“...The World may seem like an immovable, implacable place. It is not. With the slightest push – in just the right place – it can be tipped.”*

*Malcolm Gladwell*

*The Tipping Point (2000)*

In 1983, *A Nation at Risk*<sup>1</sup> sparked the last nationwide transformational moment in public education. The National Commission on Excellence in Education report, with its “rising tide of mediocrity” rhetoric, galvanized state policymakers nationwide into action. Having issued a critical challenge, the Commission also articulated a workable action agenda for the times, which included upgrading state standards, high school curricula, and teacher preparation programs.

Over the past 24 years, the drums have beat incessantly for improving education – and for good reason. Recent federal education history has given us national education goals under Presidents Bush (41), aggressive expansion of state standards under President Clinton, and enactment of No Child Left Behind (NCLB) – state standards with consequences – under President Bush (43). Sadly, these reform efforts, accompanied by repeated threats of global competition and admonitions to close the achievement gap for poor and minority students, have assumed a “cry wolf” quality with a public that has not internalized the consequences, or if it has, does not know what to do about it.

In no way is this meant to minimize the impact of NCLB, which nationwide had been considerable. But NCLB has divided the country on what needs to happen to improve education as much as it has brought us together. The good news is that the law – particularly with its emphasis on “all kids” and the disaggregation of student performance data by subpopulations – has kept education in the national spotlight, has joined the two important issues of rigor and equity in the same conversation around accountability, and has underscored the importance of teachers in achieving student success. The bad news is that NCLB attempts to provide a national solution based on 50 different state platforms of success. It has also had the unintended consequences, in many cases, of narrowing the curriculum and marginalizing teacher input.

Reauthorization of the Elementary and Secondary Education Act/NCLB is unlikely to create broad public will for transformation either, particularly if other priorities – positioning Presidential candidates for the 2008 election, preserving or denying the Bush education legacy, and assuming lockstep positions either for or against NCLB – crowd out a more

insightful policy debate on what is working well and what needs to be changed. Chances to build widespread support around NCLB are also likely to wane over time as the law's proponents are succeeded in office by others with no stake in its passage but held accountable for the consequences.

So, absent another *A Nation at Risk* galvanizing moment and faced with a relatively disengaged public and a politicized federal education agenda, what is our best recourse? Specifically, how can we spark the “big public conversation” over transforming education that we need to have – and are not now having? And, by engaging the public, how can we then accelerate the “tipping point”<sup>2</sup> that will lead to a thoughtful resolution?

I fear that we will never reach the educational tipping point unless we initially confront two underlying questions. First, are existing state assessments likely to enrich 21st Century learning? And second, are existing instructional approaches likely to engage 21st Century learners?

### The Current State of State Assessments

Addressing the first question – Are existing state assessments likely to enrich 21st Century learning? – represents an “Emperor’s New Clothes” moment.

Our current patchwork of state standards, assessments, and accountability, despite the best of intentions and years of hard work, are not doing what we need them to do – inform instruction so that teachers can use the information to help all students improve. In the worst cases, the pressure to meet state accountability requirements/NCLB actually competes with time devoted to effective instruction.

The reason has to do with the nature of the assessments themselves. Most states, notes UCLA Professor Emeritus Jim Popham, are either implementing standardized achievement tests, which measure the impact of socio-economic status and intrinsic academic aptitudes that students bring to school, not what they are taught once they get there. Or they are using standards-based tests, which overwhelm teachers because the standards were developed by subject matter experts who, in determining what students should know, often went overboard.<sup>3</sup>

Popham goes on to describe the impact on students this way: Existing state tests are assessments *of* learning, which “attempt to get a fix on what students know for the purposes of giving grades or evaluating schools.” Unfortunately, they crowd out classroom time spent on assessments *for* learning, “the frequent, continual use of both formal and informal assessments...based on a careful analysis of the enabling knowledge and sub-skills that students must first acquire to master a higher curricular aim...which is always linked to the next question ‘What’s next instructionally?’”<sup>4</sup>

University of Illinois Professor James Pelligrino also advocates in favor of rethinking our current assessment practices with a particular look to the future. “Consider the possibilities that might arise,” he suggests, “if assessment is integrated into instruction in multiple curricular areas and the resultant information about student accomplishment and understanding is collected with the aid of technology. In such a world, programs of on-demand external assessment such as state achievement tests might not be necessary. Instead it might

be possible to extract the information needed for summative and program evaluation purposes from data about student performance continuously available both in and out of the school context.”<sup>5</sup>

Thus, the first step in creating an education system for the 21st Century is to take a hard look at our existing state assessments, rather than accepting them at face value.

## A Reality Check on 21st Century Learners

Addressing the second question – Are existing instructional approaches likely to engage 21st Century learners? – has become a lot easier because of Tom Friedman. The author of *The World is Flat*<sup>6</sup> teed up a provocative discussion of what it means to be a lifelong learner in the 21st Century. What we now need to do is to flush out the essence of lifelong learning for a “plug-and-play” generation of students worldwide.

At the very least, we need to move away from the sit-and-get paradigm of learning that afflicts too many classrooms so that we can deal realistically with what 21st Century students are capable of. The good news is that this is happening in a number of our school systems today where students as young as first graders can articulate the reasons they are in school as well as their classroom and personal goals. These lifelong learners in the making are also taught how to use multiple data sources to assess and track their own performance and that of their peers, work together in teams, and determine when and how they are adequately prepared for the second grade and on up the education food chain.<sup>7</sup> Obviously, student-centered learning does not occur accidentally. Based on students already in the educational pipeline, such practices also need to become the norm rather than the exception.

Educators who seek to engage students confront an even greater challenge. “Today’s students,” observes Marc Prensky, “think and process information fundamentally differently from their predecessors. These differences go further and deeper than most educators suspect or realize.”<sup>8</sup>

He explains: “Today’s students...have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys of the digital age.” Prensky refers to such students as “Digital Natives” in contrast to the rest of us “Digital Immigrants” who were not born into the digital world but have had to adapt to the new technology.

The single biggest challenge confronting education today, he concludes, is that “Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age) are struggling to teach a population that speaks an entirely new language.” Prensky’s solution: “invent Digital Native methodologies for all subjects, at all levels, using our students to guide us.” In other words, unless we begin to think like today’s students – or at least understand how they think by engaging them in the process – we will never be able to transform the education system to meet their needs.

In 1988, actor Tom Hanks starred in *Big*, a movie in which a 12-year old boy wished to

become grown up all at once. Although he looked like a 30-year old adult on the outside, the Hanks character retained his childlike sensibilities, enabling him to identify which toys would become wildly popular with his real peers. That scenario was about toys. This reality is about our future. Given the stakes, can we afford to involve students any less?

Here, then, are five suggestions on how to transform the education system for the 21st Century.

### **1. Engage the Flat World in Defining 21st Century Learner Expectations**

So what would lifelong learning look like in practice, not from the perspective of separate subject areas or skill sets, but from the learner's perspective?

We don't have good answers yet, but that's not to say that we shouldn't make every effort to get them. Increasingly, people are turning to the small "d" democratic attributes of the Internet to address and resolve major challenges.<sup>9</sup> In the same vein, what if we were to convene a structured global discussion, using open source technology, to define 21st Century learning expectations, including proposed measures as well as examples of curricula designed to help students demonstrate their competency in meeting lifelong learning objectives? If this idea appears too "out there," just think of it as the modern day version of Tom Sawyer handing out digital paintbrushes to whitewash the global fence.<sup>10</sup>

No doubt, hosting such an Internet discussion would prompt valuable participation from the "experts," such as global companies, test developers, college admissions officers, and reform advocates from this and other countries. But it would also provide a venue to engage the "non-experts" – millions of students, themselves, and their parents – who have the most at stake in and therefore might have something interesting to contribute to the outcome.

There are two additional reasons for involving students as active participants in this discussion. First, such a worldwide initiative could spark broad-based interest in having "the big public conversation" to transform the education system. Second, involving the plug-and-play generation directly will embed in the resolution a realistic picture of how today's students actually learn, one not limited to the time they spend in class.

### **2. Transform Teaching into a Shared Enterprise**

If expectations for 21st Century learners change significantly, so, too will expectations for their teachers. Instead of ensuring that students pass an annual state test of basic skills, teachers in such a learning system will be charged with – and supported in – instilling in all of their students an intrinsic understanding of and appreciation for what it means to be a lifelong learner.

Accordingly, the new set of skills demonstrated by teachers will need to include: an understanding, based on brain research, of how different students learn; the capacity to use data diagnostically to assess student competencies formatively and summatively; and the ability to facilitate learning opportunities for students, both individually and in groups. Other skills will include: the ability to design and assess, with external partners, the learning opportunities available to students within the greater community as well as work

collaboratively with other teachers and parents to reinforce ongoing student learning. Although daunting in scope, these changes promise to be much more rewarding for teachers, both intrinsically and professionally, than is the current situation.

That said, we will never be able to transform teaching if we continue to think about teacher preparation in traditional ways. The law of supply and demand, relatively non-competitive salaries, the high number of new teacher dropouts, pressures to meet current accountability provisions, and the compelling need to attract the best teachers to work with struggling students in high poverty areas – combine to create nearly insurmountable obstacles to recruiting, preparing, and sustaining an effective teacher workforce.

In contrast, here are some thoughts intended to redesign teaching as a shared enterprise for the 21st Century:

- Prepare the core teacher workforce as learning specialists with the skill sets listed previously.
- Compensate the learning specialists with a salary reflective of their skills and enable them to engage in ongoing professional development opportunities driven by staying current in their areas of expertise, which increasingly would become cross-disciplinary based.
- Partner the core teacher workforce with a supplementary, short-term workforce that would include Teach for America participants, second careerists, local business and community leaders, university faculty on sabbatical and part-time professionals – in order to replenish information on ever changing content areas and workforce needs.
- Create professional development schools as permanent customer-supplier relationships between local school districts and feeder teacher preparation programs.
- Grant preferential hiring to new teachers prepared by such joint programs.
- Create partnerships with local universities, businesses, government agencies, and community organizations in order to sustain the pipeline of the supplementary teacher workforce.
- Provide non-threatening, reciprocal opportunities for teachers (Digital Immigrants) and students (Digital Natives) to work together to enhance their technological skills.

### **3. Redesign the 21st Century Education System from the Ground Up**

Once we articulate lifelong learning expectations for the 21st Century and redefine the student-teacher relationship, it follows that we will need to redesign the education system so that it is capable of achieving these objectives.

As stated earlier, one of the unintended consequences of NCLB is that too many teachers feel disenfranchised by the current implementation of the law, the intent to serve all students notwithstanding. That said, what better way to interest students, parents, and teachers in transforming the education system than to make them the key participants in making it happen?

Toward that end, we need to redesign the system from the grassroots on up:<sup>11</sup>

- Identify and invite a group of teachers (pre-k through high school) who have demonstrated success with students, regardless of their individual backgrounds and learning styles, within a student-centered environment. “Success” in this context is defined beyond insuring that all students behave in class or pass annual state or minimum competency tests. It includes involving students as active partners in the learning process in the following ways: assessing individual progress, using multiple data sources, on an ongoing basis; co-designing, with their teachers and peers, classroom, Internet, and community-based activities to meet school, community, and state performance expectations; working collaboratively on team projects; and providing feedback to their peers. Accountability in this setting becomes a shared responsibility between students of all ages and their teachers. In addition, these teachers would be experienced in working closely with their colleagues in developing interdisciplinary activities, as well as with parents, to support students as they progress from grade level to grade level.
- Task the group of teachers to create a scenario of what it would take to have all students meet the new definition of 21st Century learning expectations by the time they exit high school (the outcome of point one above). Resources could include access to the entire community. Current structures, such as grades, grade levels, and Carnegie units, would all be up for grabs. Matriculation and eventually high school graduation for each student would occur in real time, whenever he or she met the new expectations.
- Engage, for their feedback to the scenario, a group of Digital Natives, including current students, college freshmen and entry level workers, all of whom were educated in a learning-centered setting; also include students who left the public schools for alternative settings – via distance learning, in charter schools, and on the street, for students exercising leadership skills within dysfunctional settings such as gangs.
- Invite a number of important groups to listen to the scenario-building and student feedback and ask thoughtful questions based on the following charges to each:
  - a. *Building and district administrators*, to identify the planning and resource needs at the school and district levels, plus resources from the external community, that would support the new learning system.
  - b. *Product designers/organization developers*, to redesign, based on the teacher/student developed scenario, the school system from the ground up. They would be teamed with building and district administrators in reorganizing the work of the schools and the central office. Also at the table would be a group of innovative business and community leaders, to identify the roles that business, the civic community, and local government could play to ensure successful implementation.
  - c. *Policymakers at all levels*, to identify the current policy levers for and barriers to supporting the new learning system.
  - d. *Computer game designers*, to ensure that the curriculum and assessments, including student portfolios, be developed with a digital, web-based mindset.

- e. *Schools of education and workforce development specialists*, to redesign teacher and administrator preparation programs as described previously.
- f. *Communications specialists*, to design a comprehensive public awareness campaign to build public and political support for the changes.
- g. *Researchers from higher education and leading education research organizations*, to design a formative and summative evaluation plan that will inform and assess impact as well as capture the lessons learned in progress and, ultimately, in retrospect.
- h. *Military generals*, to assist all of the other groups connect and sequence the logistical tasks so that they will result in a thoughtful, comprehensive, and lasting educational campaign to define the future.
- i. *Foundations*, to fund and participate in the work and the initial rollout strategy.

#### **4. Reinforce State Leadership in Transforming to a Lifelong Learning System**

Because states are constitutionally responsible for education in our federal system, they must take the lead in transforming to the 21st Century learning system. If past efforts are any indication, major changes can't happen without the states. But they will not succeed only with the states. State education leaders will need powerful allies to provide them with air cover and ongoing support.

Toward that end, a potential implementation strategy could look like this: Create the opportunity, through federal or foundation funding, for teams of state education leaders (chiefs, state boards, governors, legislators, and higher education commissioners, plus a number of pilot districts) to work collaboratively over time<sup>12</sup> on the following activities:

- Use the new 21st Century learner expectations, coupled with the grassroots scenario/learning system redesign, to rethink the contents of their state standards, assessments, and accountability requirements. As a result, states would hopefully come up with comparable or, optimally, a shared set of standards, assessments, and accountability requirements to support a 21st Century learning system.
- Provide incentives for teachers across the disciplines to redesign state curriculum frameworks and provide examples. Use open source technology to expand outreach to anyone interested in contributing ideas/materials to enrich the curricula.
- Provide incentives to create in-service programs for teachers to work across content areas in order to assess the competencies of their students as well as their longitudinal progress.
- Provide incentives for testing companies to collaborate in designing a new common assessment. The companies would then be able to develop “niche” products (targeted assessments, training, instructional materials) based on the common assessment platform.
- Provide incentives for schools of education, in partnership with other organizations, to redesign their teacher and administrator preparation programs.

- Fund external evaluators, to analyze progress on an ongoing basis as well as provide a summative evaluation every three years.

Enable everyone to be on the same page by inviting the following groups to observe and reinforce the network of the state teams:

- Congressional members/staffers and U.S. Department of Education officials, to identify existing incentives and barriers in federal legislation and regulations. If federal policymakers have an opportunity to see firsthand that state leaders are serious about being accountable for meeting more rigorous expectations for all students, then they should be more receptive to providing the flexibility needed to accelerate state efforts.<sup>13</sup>
- A coalition of think tanks on the right and left, to bring thoughtful discussion and analysis to the issues and ensure that the transformation not become captive of particular ideologies.
- Successful business leaders who understand what it takes to innovate and can make it politically feasible for public officials to take risks, not all of which will result in success.<sup>14</sup>
- The national groups representing state and local educators, as well as key education organizations involved in state reforms, to identify and map their core competencies around the new learning system in ways that will enhance the participation of their members.

## 5. Align Existing Institutional Levers in order to Accelerate and Sustain Transformation

Individual leaders come and go. All too often their change initiatives go with them, which is why we need to form institutional partnerships that can weather leadership transitions at the top.

Toward that end, here are a few suggestions:

- Redesign collective bargaining agreements between local school districts and their teacher unions to reinforce collaboration around a 21st Century learning system. For example, unions and school districts, as well as teacher training programs, all have a vested interest in keeping the skills of the teaching workforce current. Negotiations should make this both a priority and a shared responsibility.
- Encourage local education and community organizations to endorse school board candidates based on the willingness of individual candidates to support sustained implementation of a learning system.
- Provide incentives, through state and community P-20 coalitions, for social service agencies, early childhood providers, school districts, and higher education institutions to collaborate in providing opportunities for students of all ages to enhance their life-long learning skills.
- Leverage the use of certification to reflect and reinforce the skill sets needed for the new teacher and administrator workforce.

- Leverage regional accreditation to support the creation and reinforcement of learning systems. Regional accreditation, with its common quality standards, built-in improvement cycle, and peer review feedback, provides a way for schools and districts to baseline and document their improvement efforts and benchmark with other sites worldwide that are using the same approach.
- Align the use of state department of education field resources, regional accreditation, and state quality (Baldrige-based) programs as a seamless support system for school districts to enhance their internal organizational capacity for continuous improvement, to meet the learning needs of all students.
- Build in a systemic capacity for lifelong learning within the education system by focusing the work of the U.S. Department of Education in two areas: developing and maintaining common state data bases and capturing lessons learned, not only on the end results of scientifically-based research but also on the impact, in real time, of implementing reforms. We need to create a “living repository” for change agents and researchers so they can pass along the lessons learned – both what worked well but just as critically, what did not work and why – from one generation to the next. In creating lifelong learners for the 21st Century, the education system itself needs to model such practices internally. Hopefully, by institutionalizing the capacity for generational sharing, we won’t be entertaining this same conversation – 24 years from now – about why we have not progressed farther faster in improving education.

In sum, focusing on lifelong learning provides a way to recommit this country, post 9/11, to its democratic ideals. That, I would suggest, is the “big conversation” around education that we should be having, but are not. Hopefully, by involving everyone – particularly students themselves – in coming up with an appropriate 21st Century solution, we can expedite the tipping point to transform the education system in the process.

Or, as Tom Sawyer might have observed during the 21st Century “Does a boy get a chance to whitewash a fence every day?”<sup>15</sup>

## Endnote

1. National Commission on Excellence in Education, *A Nation at Risk: The Imperative For Educational Reform*, April 1983.
2. Malcolm Gladwell popularized the concept in his book, *The Tipping Point*, Little, Brown, and Company, 2000, 2002. It refers to “the name given to that one dramatic moment in an epidemic when everything can change all at once.”
3. The basis of these thoughts was captured in a presentation by UCLA Professor Emeritus W. James Popham, keynote speaker at the Council of Chief State School Officers, CEO-CEO Exchange, Park City, UT, September 10-12, 2006 and reproduced in the meeting proceedings, *Leading Change: Innovative Opportunities for States in the Twenty-First Century*.
4. W. James Popham, ASCD Educational Leadership, “All About Accountability/Assessment for Learning: An Endangered Species?” February 2006. See also the work of Richard J. Stiggins, who has written extensively on the difference between assessments that take stock of “learning of” as opposed to “learning for.”

5. James W. Pellegrino, "Rethinking and Redesigning Curriculum, Instruction and Assessment: What Contemporary Research and Theory Suggests," commissioned by the National Center on Education and the Economy for the New Commission on the Skills of the American Workforce, November 11, 2006.
6. Thomas L. Friedman, *The World is Flat*, Farrar, Straus and Giroux, New York, 2005.
7. Firsthand observations, Azalea Elementary School, Pinellas County, FL, mid-1990's.
8. Marc Prensky, "Digital Natives, Digital Immigrants," *On the Horizon*, NCB University Press, Vol. 9 No. 5, October 2001.
9. For a fascinating discussion of the possibilities, see Don Tapscott and Anthony D. Williams, *Wikinomics: How Mass Collaboration Changes Everything*, Portfolio Press, 2006.
10. With sincere apologies to Mark Twain.
11. Where is NASDC now that we really need it? In 1991, a number of leading US companies created the New America Schools Development Corporation (NASDC) as a non-profit venture capital fund to create break-the-mold whole school reform models. NASDC was probably before its time. Today, particularly with advancements in technology and brain research during the past 15 years, it would be great to have a new "public/private NASDC" to fund and oversee truly innovative whole-system reform.
12. See Chester E. Finn, Jr., Liam Julian, and Michael J. Petrilli, *To Dream the Impossible Dream*, the Fordham Foundation, August 2006. This thoughtful report, based on the ideas of a number of leading educators, posed four different approaches that could result in national standards and tests, or their equivalent. My ideas are most in line with Model 3, "Let's All Hold Hands," with the states coming together voluntarily, potentially with federal incentives, to develop common standards and tests/test items.
13. A good starting point to join this discussion would be the ESEA Reauthorization Policy Statement drafted by the Council of Chief State School Officers in October 2006, which advocates on behalf of real innovation and meaningful accountability delivered through additional flexibility in implementation. CCSSO was later joined by the National Governors Association and the National Association of State Boards of Education in issuing a joint statement on behalf of this idea and many others.
14. Business leaders need to weigh in on two levels. They need to provide a safe haven for state and local education leaders to redesign the education system. Just as critically, however, business leaders need to get involved directly in the design and implementation issues. Such engagement could be strengthened greatly by involving third parties who have working knowledge both of education's organizational needs and business operational experience, which could be positioned effectively as a resource to address such needs.
15. Mark Twain, "The Glorious White Washer," *The Adventures of Tom Sawyer*, 1876.