



*Research and Best Practices That Advance the Profession  
of Education Administration*

Winter 2010 / Volume 6, No. 4

**Table of Contents**

**Board of Editors** ..... 2

**Editorial**

Common Core National Curriculum Standards: More Questions ... and Answers. .... 3  
*Christopher H. Tienken, EdD and Yong Zhao, PhD*

**Research Articles**

Academic Readiness for College: The Role of School Administrators. .... 14  
*Chul Lee, PhD and Eunyoung Kim, PhD*

Is Shared Leadership Right for Your School District? ..... 29  
*Joni C. Poff, EdD and David J. Parks, PhD*

**Commentaries**

A Critical Analysis of Educational Standards. .... 40  
*Donald C. Orlich, PhD*

Singapore’s Educational Reforms: The Case for Un-Standardizing Curriculum  
and Reducing Testing. .... 50  
*Sophia HueyShan Tan, PhD*

**Mission and Scope, Upcoming Themes, Author Guidelines & Publication Timeline.** . . . . 59

**AASA Resources.** ..... 62

---

American Association of School Administrators, 801 N Quincy St., #700, Arlington, VA 22203; 703-875-0748; membership@aasa.org.  
© 2010 American Association of School Administrators. ISSN 1931-6569. All rights reserved.

## Board of Editors

*AASA Journal of Scholarship and Practice*  
2009-2011

### Editor

Christopher H. Tienken, *Seton Hall University*

### Associate Editors

Barbara Dean, *American Association of School Administrators*

Charles Achilles, *Seton Hall University*

Albert T. Azinger, *Illinois State University*

Sidney Brown, *Alabama State University*

Brad Colwell, *Southern Illinois University*

Theodore B. Creighton, *Virginia Polytechnic Institute and State University*

Betty Cox, *University of Tennessee, Martin*

Gene Davis, *Idaho State University, Emeritus*

John Decman, *University of Houston, Clear Lake*

David Dunaway, *University of North Carolina, Charlotte*

Daniel Gutmore, *Seton Hall University*

Gregory Hauser, *Roosevelt University, Chicago*

Jane Irons, *Lamar University*

Thomas Jandris, *Concordia University, Chicago*

Zach Kelehear, *University of South Carolina*

Judith A. Kerrins, *California State University, Chico*

Theodore J. Kowalski, *University of Dayton*

Nelson Maylone, *Eastern Michigan University*

Robert S. McCord, *University of Nevada, Las Vegas*

Sue Mutchler, *Texas Women's University*

Margaret Orr, *Bank Street College*

David J. Parks, *Virginia Polytechnic Institute and State University*

George E. Pawlas, *University of Central Florida*

Jerry Robicheau, *University of Minnesota, Mankato*

Paul M. Terry, *University of South Florida*

Thomas C. Valesky, *Florida Gulf Coast University*

*Published by the*

American Association of School Administrators

801 North Quincy St., Suite 700

Arlington, VA 22203

Available at [www.aasa.org/jsp.aspx](http://www.aasa.org/jsp.aspx)

ISSN 1931-6569

## Editorial

Christopher H. Tienken, Editor  
*AASA Journal of Scholarship and Practice*  
 &  
 Yong Zhao

### Common Core National Curriculum Standards: More Questions ... and Answers

In the Fall 2009 issue of the *AASA Journal of Scholarship and Practice* there were two articles that examined various aspects of the impending Common Core State Standards (CCSS). In the editorial, David Canton and I presented historical and empirical arguments against the CCSS and the reasons commonly expressed by proponents for the need for national curriculum standards (Tienken & Canton, 2009). Yong Zhao (2009) wrote *Comments on the Common Core Standards Initiative* and provided further evidence that national standards were an inappropriate and empirically unsound direction for American education. We asked readers to send us lingering or unanswered questions they had after reading those two articles. What follows are five questions that summarize what we received. Yong Zhao and I provide answers to those questions and hopefully bring added clarity to the issue of national curriculum standards and the next iteration of large-scale testing that is sure to follow this initiative.

1. ***Do you think the potential negative consequences of national standards are simply just really negative consequences of state assessments? State mandated assessments of academic skills and knowledge came before Common Core State Standards and it seems that state assessments are here to stay, with or without national standards. Wouldn't it be a better use of our time to work to improve the poorly designed state assessments?***

Yes and no. As we explain below, we have seen many negative consequences of state assessments already, but the CCSS will exacerbate the current high stakes testing environment. While on the surface, the CCSS are marketed as something to provide greater instructional guidance, the fact is that the probability is likely that high stakes testing will be used to enforce implementation of the CCSS. The Council of Chief State School Officers (CCSSO, 2009), one of the organizations that pushed through the development of the standards, wrote, "States know that standards alone cannot propel the systems change we need. The common core state standards will enable participating states to ... develop and implement an assessment system to measure student performance against the common core state standards" (p.2).

These standards will form the core curriculum of every public school program, drive another stronger wave of high stakes testing, and thus become student selection criteria for K-12 school programs such as Title I services, gifted and talented programs, high school course placement, and other academic programs.

The subjects prescribed currently by the CCSS, language arts and mathematics, and eventually science, will become the most important subjects in terms of time and resources allotted to teachers and other subjects and educational activities will be further deemphasized, intensifying the current situation across the country. Furthermore, students who do not meet the arbitrary levels of achievement set in those subject areas will be considered “at risk” and forced to do more work in those areas, depriving them of the opportunities to participate in other educational activities. Teachers in schools whose students do well in those areas will be rewarded, while teachers in schools in which students do less well will be punished, leading to a nation of schools that focus only on two or three subject areas.

### Theories, Goals, and Policies

We as a nation need to examine our stated goals for public education. If, for example, we accept that one overarching end goal of education in the U.S. should be to prepare people who can strategize, problem solve socially conscious issues, create, collaborate, and innovate, then we need to look at the existing theories and applied research on the best ways to achieve those goals.

We also need to compare the theories and research that support our collective goals for education as a nation to those theories and research that drive standardized curriculum and testing, the proposed means of achieving the goal, to determine if there is theoretical and empirical congruency between ends and means. If the theories and research are not congruent, then we will not achieve our intended goals. We might even retard progress.

When we looked at the underlying theories of mandated statewide testing from the No Child Left Behind Act of 2002 (No Child Left Behind [NCLB PL 107-110], 2002), *Common Core State Standards*, and the proposals put forth in the *Race To The Top* program, we found them driven by behaviorism and rational choice theories. Those types of theories produce policies based on power relationships focused on efficiency and monitorial control. The fundamental idea of policies based on behaviorism and rational choice is that some policy body (e.g., State Education Agency (SEA) or U.S. Department of Education) develops a set of expected education outcome measures, monitors the relationship between the measures and school processes through a monitoring device (e.g., high-stakes test), and then implements rewards or sanctions to attempt to change behavior through external force to maximize performance on the monitoring device.

Results on the monitoring device become the end target instead of authentic improvement to the system. The tests used as monitoring devices usually judge student achievement based on arbitrary proficiency bands with limited or no empirical evidence to support their use (see Orlich, 2010 in this issue, Orlich, 2007; Tienken and Achilles, 2005).

For example, advocates of high school exit exam policies postulate that high-stakes exit exams cause students and teachers to work harder and achieve more because the tests create teaching and learning targets that have perceived meanings to both groups. The powerful (policy makers) exert force and control over the powerless (children and educators). Bryk and Hermanson (1993) termed this an instrumental use model. Examples of instrumental use models include state testing policies that use threats from SEAs to withhold funding for poor performance to compel school personnel to work harder so as not to lose funding or when SEA personnel use public castigation via the press and school ratings and/or rankings to spur educators to work harder to achieve outcome measures. The underlying assumption of people who espouse instrumental use models and behaviorist or rational choice policies

is that students, teachers, and school administrators do not work hard enough and are not motivated. This is similar to McGregor's Theory X (McGregor, 1960). SEA personnel and other policy makers that implement systems based on behaviorism and rational choice theory neglect to understand one important fact—thankfully, humans do not always act “rationally” or as policy-makers desire.

### **Collective Punishment Policy**

An interesting characteristic about the current education policies at the state and national levels, and the one that is foreshadowed in the CCSS and the *Race To The Top* program, is that they mirror closely something known as collective punishment. Collective punishment is a policy of punishing a large group for the actions of a small group.

For example, in New Jersey, school districts must meet 289 separate criteria to be considered a proficient school district. In 2007, a school district in Middlesex County achieved 288 of 289 criteria. One student sub-group, in one grade level, in one of the district's seven schools did not achieve the annual yearly progress testing requirement two years in a row. The entire district was punished by having the school labeled as “needs improvement” and thereby forced to offer supplementary education services. The district had to pay for those services, reducing the amount of money available to help all students improve.

It should be known that the Soviets utilized collective punishment on a regular basis to control populations. The British used the strategy during the years leading up to the American Revolution through the implementation of the Intolerable Acts. There are countless other examples throughout history of authoritarian nations using collective punishment to force their political wills on the population. An education system that models policies based in part on collective punishment seems unconstitutional because such policies appear to violate due process rights. Are not those who are punished supposed to receive a due process hearing? As taxpayers, we are requesting ours.

### **Reactance Theory and Broken Tests**

A cursory review of reactance theory should also raise questions about the notion of relying on standardized tests as primary outcome measures for school quality. Reactance theory states that when humans are placed in situations that they feel they cannot succeed (e.g., 100% proficiency mandate under NCLB), feel coerced, or believe the mandates are counterproductive or harmful, they will react by doing less than their best. They will withdraw, engage in practices that are contrary to research or recommendations, sabotage the mandate, feign minimal compliance, or openly dissent and resist (Brehm & Brehm, 1981; Silvia, 2005). In essence, the carrots and sticks used in instrumental use policies have little effect, and might have negative effects, if the people believe that they are in a no-win situation.

Based on a review of every Grade 8 and High School statewide standardized exit exam used to satisfy the NCLB Act testing mandates, educators should be reacting. Not one of the Grade 8 or High School exit exam tests in use assesses authentic strategizing, innovation, creativity, or socially conscious problem solving (Tienken, 2008; 2009). They all test basic computation, something teachers do on a regular basis. They all test literal comprehension and memory, something teachers do on a regular basis, and they all test imitation (e.g., being able to follow the steps to solve disconnected mathematics problems) another thing teachers do on a regular basis. Not one of the statewide tests

reviewed assesses anything that is not already assessed on a consistent and frequent basis by classroom teachers. In essence, these tests tell us nothing new.

Another issue with using standardized tests is that the results from all statewide tests of academic skills and knowledge are imprecise. In fact, the reported scale scores for individual students that parents, teachers, and administrators receive from the state SEA can be inaccurate by as many as 50 scale score points (Tienken, 2008; 2009). That is because all test results from standardized tests have error. They are not precise.

For example, the Florida Grade 8 mathematics test results can be off by as much as 9 scale score points, New Jersey's Grade 8 mathematics results have approximately 12 points of error and California's mathematics test results have approximately 17 scale score points of error. Ohio's Grade 8 mathematics test results have approximately 10 points of error for individual student results. One reason for this is that there are simply too few questions on the tests to get an accurate measurement of student achievement in any one skill. It takes at least 25 questions per skill to get a statistically reliable measurement of an individual student's achievement of a specific skill. Now consider the hundreds of standards in each content domain and multiply that by 25. You can imagine the immediate issue with the continued reliance on statewide testing to monitor standards—regardless of how well the test quality improves.

### Error Defined

The technical term for the amount of error present in the individual student test scores reported by SEA personnel is the *standard error of measurement* (SEM). The SEM is an estimate of the amount of error one must consider when interpreting a test score (Harville, 1991). The SEM describes how far the reported result may differ from a student's true score (Harville, 1991). A more precise statistic is the *Conditional SEM* associated with proficiency level cut-scores (Harville, 1991). School and district leaders set internal cut-scores, linked to statewide test results, for entrance into specialized programs such as Title I basic skills, gifted education, and differentiated high school curricula (Booher-Jennings, 2005).

In some instances the cut-scores for remedial programs rest on the border of the statewide proficient and non-proficient categories. Even one point of error can make a difference whether a student is labeled proficient or something less. The technical limitations inherent in state assessment results call into question the use of the results as accurate decision-making tools and challenge the reliance on standardized state or national tests as the ultimate outcome measure of education quality (American Education Research Association [AERA], American Psychological Association [APA] National Council on Measurement in Education [NCME], 1999; Amrein & Berliner, 2002; Darling-Hammond, Rustique-Forrester, Pecheone & Andree, 2005; Joint Committee on Testing Practices [JCTP], 2004; Neill, 1997; Standard & Poors 2005).

You can begin to realize that this effort of statewide testing to monitor standards becomes a bit like Sisyphus pushing the rock up the hill. We should not ask for better tests—they will not come. We should reject the notion of using one test as the indicator of anything. The spring issue of the *AASA Journal of Scholarship and Practice* will provide an overview of a set of ideas that schools can use to replace statewide assessments, demonstrated over 60 years ago in one of education's landmark studies on student achievement

**2. *Most state standards are very similar already as we all seek to enable our students to gain basic skills in math and literacy. Do you think the real problem is more about how to standardize the instruction students receive and outcomes for the proposed standards to ensure quality?***

No. The real problem is that people believe in the myth of standardization. Standardization of human beings is not desirable in a humane society, nor is it possible. Reactance theory gives us a clue on how people and systems will react. Furthermore, to remain the most creative and nimble economy in the world, the nation must remain non-standardized and develop student creativity and innovative thinking even more. We need to become as non-standardized as possible. Common standards do not do that. Standards in general attempt to reign in knowledge to what is already known, not expand it or develop the conditions necessary for creating new knowledge. The second author, Yong Zhao, brings in research evidence from a wide range of disciplines to show why diversity of talents is essential for economic growth and social coherence in his recent book (Zhao, 2009).

### **Standardization**

As with the previous topic of standardized state testing, we need to examine the underlying theories and applied research that demonstrate standards can help us achieve our goals for education. The notion that a human being can be standardized rests upon theories of behaviorism and efficiency. Both have served education poorly, but for some reason retain their attractiveness with policy makers and some educators. As Callahan (1962) so thoroughly exposed, education leaders supported Frederick Taylor's Scientific Management (1947) and tried to make education more efficient like business. Whether business was more efficient was never really questioned.

Remember, efficiency is not the same as effectiveness and effectiveness is not always efficient. Efficiency is concerned with maximizing profit at all costs, as we have painfully witnessed and experienced as a result of the hyper profit-efficiency movement currently running Wall Street. Also remember that Taylor's ideas of efficiency and scientific management were created in the steel mills focused on the shoveling of coal, an inanimate object. School leaders work with children, human beings. There is no evidence that the efficiency movement of the late 1800's and early 1900's improved education, in fact evidence exists that the opposite was true. Consider that the public high school graduation rate in 1918, well into the efficiency movement, was about 4%.

### **Liberty and Standardization for All?**

When we think of standardized instruction, the idea of programmed or scripted instruction comes to mind. We are not sure if that is what is best for students because not all students learn at the same speeds, develop cognitively, socially, or morally at the same rates, or react to instruction the same ways. Standardized instruction assumes all those variables are stable with all students at all times.

However, students bring various levels of prior experience, emotions, and attitudes to the classroom. Think about another applied profession—medicine. Doctors do not standardize their practices. They individualize to meet the needs of the patient. When you go to your doctor or hospital you expect to be treated as a unique individual. Although you expect a typical standard of care (e.g., do no harm), you do not expect to be standardized. Why would you allow your child to receive programmed, standardized, one-size-fits-all instruction? We would not allow that for our children and

we do not see any evidence that standardizing instruction will improve education for other peoples' children.

### **Deskilled Instruction**

Standardized instruction deskills teaching and reduces it to a recipe and a set of steps. The problem is that students do not always act or respond according to what the teacher's manual says. If we deskill the job of teaching even further than it has already become through the various whole school reform models and canned programs, then teachers will not know how to problem solve instructional issues that do not conform to what the teacher's manual prescribes. They will not be able individualize instruction or meet the needs of diverse learners. Those of you who spend time in classrooms know the difference between someone who can teach and someone who is simply following the teaching manual. Teachers solve instructional problems, automatons that read teacher's manuals and follow scripted programs cause instructional problems for others to solve. Teachers who are forced to follow programmed or scripted programs do not create learning, they imitate learning and they pass that penchant for imitation on to their students, thereby deskilling their students along with themselves.

### ***3. Instead of states spending money to create their own standards, why is it not appropriate to combine our talents to develop one sound set of standards?***

First, we did not combine our talents to create the CCSS. The standards were written by corporations and private consulting firms. It is fair to say that the entities involved in creating the CCSS stand to make money from national standards and testing. So from the start, profiteering is potentially at play and the threat exists that children were not the first interest in this process. We are not accusing any person or firm of less than honorable intentions. We simply observed that each corporation or firm on the list has a product or service that can be sold to schools to help school personnel implement national standards and testing. The missions and services of each corporation and firm can be found easily through an Internet search. Please remember that public schools use taxpayer money. There did not seem to be any taxpayer input in the process of developing the standards or at the state level when the state chief school officers volunteered their states for this social experiment.

### **Anti-Intellectualism and CCSS?**

We found it interesting that the major curriculum research universities were not involved in the standards creation process. That strikes us as somewhat anti-intellectual, which is troubling considering this effort is supposed to improve an intellectual enterprise. The list below, taken directly from the Council of Chief State School Officers website, shows the corporations and consulting firms involved in the creation of the English-Language Arts standards. The names of other members of other content groups can be found on the site at [www.corestandards.org](http://www.corestandards.org). We encourage readers to examine the lists carefully, search the websites, and draw independent conclusions.

- Elementary and Secondary School Programs, Development, Education Division, ACT, Inc.
- Student Achievement Partners
- America's Choice
- Core Knowledge Foundation
- The College Board
- The Quarasan Group
- National Center on Education and the Economy



- Achieve.org
- University of California, Davis
- VockleyLang, LLC

### Curricular Distance

Second, we should all ask what are the underlying theories and applied research that demonstrate one set of national standards will raise student achievement for a diverse group of students. One problem with standards developed at the national level is that the curriculum becomes further removed from the people who actually have to use it: teachers, students, and administrators. Curriculum organization and articulation is what some have called a proximal variable (Wang, Haertel, and Walberg, 1993). That means it becomes most influential when it is closer to the student. Curriculum must be designed and developed locally, by the teachers, administrators, and students who use and experience it, to have the greatest influence (Tanner & Tanner, 2007; Wang, Haertel, and Walberg, 1993). The influence of curriculum on student achievement lessens the more distal curriculum becomes from the end users.

We saw this phenomenon with the statewide curriculum enacted by the states during the NCLB era. (See the answer to Question 4 for more information.) This time, it will be worse because state level educators were not involved in the creation of the standards. The design and organization of the curriculum were two of the strongest administratively mutable variables identified by Wang, Haertel and Walberg (1993) that affected student achievement. State governance and policy setting was the weakest variable. We wonder about the influence of national governance in what used to be a locally controlled system.

We note for the reader the lack of evidence that mandating the same standards for all students improves achievement. The opposite is true. One set of curriculum standards will exacerbate learning problems for students whose cognitive developmental stage does not match the curriculum expectations (Orlich, 2007; Piaget, 1983; Sweller, 2006).

**4. *Under NCLB the states created their own tests using their own standards. Did states water down their tests and standards to make it look like their students were doing well? Could the lack of growth on the National Assessment of Education Progress (NAEP) be due to this watering down of the state testing systems or is it something else?***

The lack of growth on NAEP can be attributed to “watered down” state tests and standards only if the reason for growth on the NAEP prior to the NCLB Act was because of high quality standards and tests. Unfortunately for proponents of national standards it was not, because many states did not have mandatory curriculum standards or testing in 2001. Records from the Council of Chief State School Officers indicated that only 21 states had standards in at least mathematics and language arts by 1999 and less had standards in science. So prior to NCLB less than 50% of the states had mandatory standards and tests in mathematics and language arts.

The report released by the National Center for Educational Statistics on April 28, 2009 of the recent NAEP reading results provided some examples of what a focus on standards can produce. A review of the age 9 reading scores shows a slowdown in academic achievement as measured by NAEP. We chose age 9 because those are the students most likely to show achievement influences from NCLB because they were in school since the inception of the law in 2002. To be fair, we will not look

at the scores from 2002 until now. We present the scores from 2004 to 2008 because that provides schools two years to implement the law (2002-2004) and then four years until the NAEP testing date in 2008.

Theoretically, the reading scores from the 9-year-olds should be the strongest of any age group. They entered school two years after the law was enacted and experienced it at its height. We will compare those scores to the 1999-2004 scores, the time when fewer states had mandatory standards and tests in reading. During the 1999-2004 time period, reading scores for all students rose seven points but rose only four points for the 2004-2008 time period. That statistic could be misleading because of Simpson's Paradox. A more honest comparison is that of specific ethnic groups. The gap between students identified as black and those identified as white narrowed by three points during the NCLB era, but it narrowed nine points during the previous period. The gap closed three times as much prior to NCLB. The gap between students indentified as Hispanic and whites closed almost twice as much prior to NCLB than after; seven points closure prior and four points after.

Some might point to that and say, "yes," that proves that the states lowered their standards during NCLB. However, remember that less than 50% of the states had mandatory standards prior to the NCLB era. Some might still say that is why we need new national standards to keep states honest. Once again, the NAEP scores were better before all states had standards and even now, many states standards are strikingly similar in mathematics and language arts. You can go to [http://nationsreportcard.gov/ltt\\_2008/](http://nationsreportcard.gov/ltt_2008/) to review the NAEP results and trends.

**5. *The countries that outrank us on international tests have national curricula standards. If it works so well in other countries, why is it a negative thing for the U.S.?***

Not true. There is no solid correlation and certainly not a cause and effect relationship between national standards and national performance. First of all, there are more countries in the world that have national standards, so as a matter of probability, there can be more countries with national standards that scored well. Second, looking at the test results, we can see that some countries that outrank us on international tests have national standards and some do not. For example, in the 2006 PIRLS study of reading achievement Canada did very well, but it does not have national standards (see: [http://timss.bc.edu/PDF/P06\\_IR\\_Ch1.pdf](http://timss.bc.edu/PDF/P06_IR_Ch1.pdf)). The same can be said of the PISA (2003; 2007) test results.

For example, the 2006 science PISA results show both Canada and Australia perform well above the OECD average, ranking #2 and #4 among OECD countries respectively (PISA, 2007). Canada and Australia do not have national standards. They had similar rankings on the 2003 PISA results, with Canada ranking #4 and Australia #7 in math, both #4 in problem solving, and Canada #2 and Australia #3 in reading. There are plenty of countries with national curriculum and standards that perform much worse than these two countries and the U.S. (PISA, 2003). Countries that perennially outscore the U.S., such as Singapore and Japan, are trying to reform their systems to be more like the U.S. because they recognized the immense damage done by nationalizing their education systems around one set of standards (see the article by Sophia Tan (2010) in this issue for more information on Singapore).

There are many issues that affect test scores at the international level: selective sampling by countries, poverty levels of the students in the samples, opportunity to learn the material on the test, negotiations of actual test questions by the countries involved, culture, and other factors out of the control of schools. For a comprehensive review of the international tests given since 1964 and the issues associated with student achievement we recommend as a starting point reading Baker (2007) *Are International Test Scores Worth Anything* and Tienken (2008a) *Rankings of International Achievement Test Performance and Economic Strength: Correlation of Conjecture?*

### **Author Biographies**

Christopher Tienken is a former assistant superintendent for curriculum and instruction. He is now a full-time faculty member at Seton Hall University in the College of Education and Human Services, Department of Education Leadership, Management, and Policy. E-mail: christopher.tienken@shu.edu

Yong Zhao is a University Distinguished Professor at Michigan State University. Recently he has focused his research on the impact of globalization on education, particularly on the knowledge and skills needed in a globalized world. He summarizes his findings in his new book *Catching Up or Leading the Way: American Education in the Age of Globalization* published by ASCD. E-mail: zhaoyo@msu.edu

## References

- Amrein, A. L. & Berliner, D. C. (2002, March 28). High-stakes testing, uncertainty, and student learning *Education Policy Analysis Archives*, 10(18). Retrieved November 10, 2008 from <http://epaa.asu.edu/epaa/v10n18>
- Baker, K. (2007). Are international tests worth anything? *The Phi Delta Kappan*, Vol. 89, No. 2 (Oct., 2007), pp. 101-104
- Brehm, S. S., & Brehm, J. W. (1981). *Psychological Reactance: A Theory of Freedom and Control*. Academic Press.
- Booher-Jennings, J. (2005). Below the Bubble: "Educational Triage" and the Texas Accountability System. *American Educational Research Journal*, 42(2), 231-268.
- Byrk, A. S., & Hermanson, K. L. (1993). Educational indicator systems: Observations on their structure, interpretation, and use. *Review of Research in Education*, 19, 451-484.
- Callahan, R. E. (1962). *Education and the cult of efficiency*. University of Chicago. Chicago: Il.
- Council of Chief State School Officers. (2009). *Common core state standards initiative: Frequently asked questions*. Author. Retrieved October 8, 2009 from <http://www.corestandards.org/>
- Darling-Hammond, L., Rustique-Forrester, E., Pecheone, R., & Andree, A. (2005). *Multiple Measures Approaches to High School Graduation*. School Redesign Network.
- Harville, L. M. (1991). Standard error of measurement. *Educational Measurement: Issues and Practices*, 10(4) 181-189.
- Neill, M. (1997). *Testing our children: A report card on state assessment systems*. FairTest.org. Retrieved on March 18, 2006 from <http://www.fairtest.org/states/survey.htm> or [http://eric.ed.gov/ERICDocs/data/ericdocs2/content\\_storage\\_01/0000000b/80/0d/b3/a6.pdf](http://eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/0d/b3/a6.pdf).
- No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, Stat. 1425 (2002).
- Orlich, D. C. (2007). *School reform and the great American brain robbery*. Publish America: Frederick, MD.
- Piaget, J. (1983). Piaget's theory. In P. Mussen (ed.). *Handbook of Child Psychology*. 4th edition. Vol. 1. New York: Wiley.
- PISA (2003). *First Results from PISA 2003*. Paris: PISA, OECD.
- PISA (2007). *PISA2006: Advance Details*. Paris: PISA, OECD.

- Silvia, P. J. (2005). Deflecting reactance: The role of similarity in increasing compliance and reducing resistance. *Basic and Applied Social Psychology*, 27, 277–284.
- Standard and Poors. (2005). Leveling the playing field: Examining comparative state NAEP performance in Demographic Context. McGraw Hill. Retrieved December 5, 2005: [http://www.schoolmatters.com/pdf/naep\\_comparative\\_state\\_performance\\_schoolmatters.pdf](http://www.schoolmatters.com/pdf/naep_comparative_state_performance_schoolmatters.pdf)
- Sweller, J. (2006). Discussion of ‘Emerging topics in cognitive load research: Using learner and information characteristics in the design of powerful learning environments.’ *Applied Cognitive Psychology*, 20(3), 353-357.
- Tanner, D. & Tanner, L. (2007). Curriculum development: Theory into practice. Fourth Edition. Pearson. Saddle River: NJ.
- Taylor, F. (1947). *Scientific management*. Harper and Brothers: New York.
- Tienken, C. H. (2009). High School Exit Exams and Conditional Standard Error of Mismeasurement. *NCPEA Yearbook 2009*, 163-173.
- Tienken, C. H. (2008). A descriptive study of the technical characteristics of the results from New Jersey’s Assessments of Skills and Knowledge in Grades 3, 4, and 8. *The New Jersey Journal of Supervision and Curriculum Development*, 52, 46-61
- Tienken, C. H. (2008a). Rankings of international achievement test performance and economic strength: Correlation or conjecture? *International Journal of Education Policy and Leadership*, 3(3).
- Tienken, C. H. & Achilles, C. M. (2005). The effects of professional development: A view from Plato’s cave. *National Forum of Education Administration and Supervision Journal*, 23(4E). <http://www.nationalforum.com/index.htm>.
- Tienken, C. H., & Canton, D. (2009). National curriculum standards: Let’s think it over. *Journal of Scholarship and Practice*, 6(3), 3-9.
- Wang, M. C., Haertel, G. D., & Walberg, H. J. (1993). Toward a Knowledge Base for School Learning. *Review of Educational Research*, 63(3), 249-294.
- Zhao, Y. (2009). *Catching up or leading the Way: American education in the age of globalization*. Alexandria, VA: ASCD.
- Zhao, Y. (2009). Comments on the Common Core Standards Initiative. *Journal of Scholarship and Practice*, 6(3), 46-54.

## Research Article

# Academic Readiness for College: The Role of School Administrators

Chul Lee, PhD  
 Director  
 Data Analysis and Institutional Effectiveness  
 Wesley College  
 Dover, DE

Eunyoung Kim, PhD  
 Assistant Professor  
 Department of Education Leadership,  
 Management and Policy  
 Seton Hall University  
 South Orange, NJ

## Abstract

The study utilized the National Education Longitudinal Study of 1988 (NELS:88) to identify which characteristics of academically effective high schools are key determinants of students' academic readiness for college. A multilevel analysis shows that high school characteristics affect student preparation for college in four core subject areas: reading, math, science, and history. In addition, prior academic achievement is the strongest predictor of academic readiness, followed by high school socioeconomic status and high school climate. Results indicate that students attending schools where academics are emphasized are more likely to succeed, suggesting a systematic link between student achievement and academic climate.

## Keywords

Post-secondary readiness, climate, NELS

Going to college is a widely accepted education goal among high school students and most high school seniors express that they aspire to earn a bachelor's degree (Rooney, et al., 2006; Wirt, et al., 2004). However, as Kirst and Bracco (2004) pointed out, many high school graduates lack the preparation and ability to take college-level coursework,

resulting in stagnant postsecondary participation.

Some national data have profiled that our high school graduates are not ready to perform well in academic classes required in many postsecondary institutions and this, in turn,

leads to delayed college entrance and remedial course-taking.

For example, recent data show that the average graduation rate of public high school students in the class of 2005-2006 was 73.2 % among 48 states (Cataldi & KewalRamani, 2009), but 53% will enter college directly from high school and only 35% will earn a baccalaureate degree (Adelman, 2006).

According to an American College Testing (ACT) report (2009), as low as 23% of the 1.48 million high school graduates who took the ACT test in 2009 were college ready in all four subjects (English, reading, math, and science) and had a good chance of earning a grade of C or better in entry-level college courses. A previous national survey has also shown that in fall 2000, 28% of entering freshmen of either two-year or four-year institutions were required to take one or more remedial courses in reading, writing, or mathematics (Parsad & Lewis, 2003).

### **Academic Readiness for College**

As high school students' underpreparation for college-level work has long been a vexing problem, several studies have provided guidelines for seamlessly preparing high school graduates for college. For example, Martinez and Klopott (2005) suggested that the determinants of college-going behavior can be embedded in high school reform strategies aimed at increasing student achievement, college preparation, and success. Wimberlyn and Noeth (2004) recommended that high school educators encourage parents to participate in their children's academic preparation, including program and course selection.

Other research has shown that taking college preparatory courses supports college entrance and gives a head start on college-level

work (Achieve. Inc., 2004; Haycock, Barth, Mitchell, & Wilkins, 1999; Lerner & Brand, 2006; Pathways to College Network, 2007).

Even though three-quarters of high school graduates go on to some type of postsecondary education (Berkner, Chavez, & Carroll, 1997; Forster, 2006), the questions still remain:

Why are high school graduates not fully prepared for college?

What are some ways school administrators can provide conditions that support students' educational goals?

Because high school is a mediator bridging secondary and postsecondary education and a period of preparing for college, our attempt was to identify what characteristics of academically effective high schools are key determinants of students' academic readiness for college, and to offer several useful recommendations that can be applied across schools to raise academic readiness. In this study, we used the term, *academic readiness for college* as a conceptual frame of reference; that is, a level of academic performance by high school students which is necessary for them to perform college-level work, and that college and university faculty demand.

### **Problem**

Existing research on factors that influence academic readiness for college draws on two competing perspectives: college choice theory and school effectiveness theory.

College choice theory emphasizes students' background characteristics in explaining academic readiness for college as a stage of college access. This strand of research has viewed choice as a developmental phase for students that is influenced mostly by students'

individual characteristics such as socio-economic status (SES) or parental involvement (Choy, 2002; Choy, Horn, & Nunez, 2000; McDonough, 1997, 2003; Tierney & Hagedorn, 2002).

On the other hand, school effectiveness theory holds that higher dropout rates and lower persistence rates in postsecondary education necessarily accompany inadequate preparation in high school for college regardless of students' characteristics and family background. The design of the core curriculum, the school culture, and the social context represented by the school SES are conducive to the condition of access to college (see for example, Berkner, et al., 1997; Kirst & Bracco, 2004; Schneider, 2003).

To date, research that combines these two differing perspectives on academic readiness for college has been limited. In one example, Perna and Titus (2005) introduced a new methodology by incorporating the high school characteristics into a school context model and suggested that school contexts delimit student academic readiness for college. Another case is Adelman (2004, 2006), who stressed the importance of the rigor of the high school curriculum as well as course-taking patterns in a series of studies on high school effects on college preparedness.

### **Purpose**

Although recent research efforts have generated some school-level results beyond individual-level predictors, we know little about to what extent high school environments influence academic readiness for college.

Thus, the purpose of our study was to increase understanding of the importance of high school characteristics that affect students' academic readiness for college by paying close attention to high school climate, divided into

communal and academic climate, and other high school characteristics.

### **Why Does School Climate Matter?**

School climate is identified as the composite of norms, expectations, and beliefs which characterize the school social system as perceived by members of the social system (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979).

Previous studies have defined communal climate as social cohesion achieved through shared values, collegial work, effective communication, caring relations between members, and a sense of belonging, while academic climate focuses on the mission of teaching, the level of expectation, and the responsibility for student learning (Odden & Odden, 1995). Lee (1999) distinguished the roles of communal and academic climate; the communal perspective is directed more to the affective than to the cognitive dimension of schooling, specifically, the engagement and commitment of students and teachers, whereas academic climate directly affects students' intellectual development.

Bookover et al. (1982) indicated that school climate factors (or student sense of academic futility) could be powerful predictors of student achievement. Lee and Smith (2003) concluded that both learning and the relationship between social support and achievement were contingent upon the academic climate of the school that students attend.

Both Shouse (1997) and Phillips (1996) differentiated between the norms of academic climate and school communal climate, with Shouse concluding that for most schools, academic climate serves as an antecedent to the positive effects of communal climate.



Furthermore, Phillips (2000) suggested that academic climate was positively related to both math achievement and attendance whereas communal climate was unrelated to math achievement or attendance.

## Methodology

### Data Source and Sample

For the present study we used a sample made up of 10th and 12th graders who participated in the National Education Longitudinal Study of 1988 (NELS:88) in 1990 and 1992.

The sample included only students who were enrolled in the same high school for the two consecutive survey periods under examination. This sample selection method made it possible for us to ascertain the impact of schools on academic achievement among high school seniors.

Two panel weights were used to adjust the sample of students and schools to approximate national population norms in 1990 and 1992. These two weights produced estimates of 1,329,921 students attending 5,133 high schools in the 1990-1992 period of time:

#### *Student Weight*

The NELS:88 panel weight was applied to adjust the sample such that it reflected the number of 10th and 12th graders in 1990 and 1992.

#### *High School Weight*

A high school weight was used to adjust the non-random sampling of high schools used in NELS:88.

### Variables

Academic readiness for college was assessed via test scores in four core subject areas: reading, math, science, and history. These test scores were drawn from a standardized test applied to the students when they were in the 12th grade.

Both individual characteristics and high school characteristics were tested to predict academic readiness. Those individual characteristics were family SES, student race, student gender, parental involvement in high school, and student test scores at the 10th grade.

In addition to individual variables, six school-level variables were included in the study as independent variables:

- (a) high school SES,
- (b) high school race,
- (c) high school type,
- (d) high school urbanicity,
- (e) percentage of teachers with a professional degree in a major, and
- (f) two high school climate indices: academic climate and communal climate.

Definitions of the high school variables are shown in Table 1.

Table 1

*High School Variables in the Statistical Model and Definitions*

Variables	Definitions
Academic Readiness	The researchers of this study defined academic readiness as the four cognitive tests at the 12 <sup>th</sup> grade including reading, math, science, and history.
High School SES	The researchers of this study defined high school Socioeconomic status (SES) as the average SES of students who were sampled within each school. SES was a composite score of family income, parents' education levels, and parents' occupations.
High School Race	The researchers of this study defined a school's racial demographic as the proportion of African-American and Hispanic students attending each high school. If the percentage of African American and Hispanic students attending a high school equaled or exceeded 40%, then that school was coded as having a high proportion of minorities. Otherwise, the high school was coded as having a low proportion of minorities.
High School Type	The researchers broke high school types into the following categories: Catholic, private, and public institutions.
High School Urbanicity	The researchers broke high school urbanicity into three categories: urban, rural, and suburban.
High School Teacher Quality	The researchers of this study calculated and standardized for each high school the percent of teachers who have professional degrees in a particular discipline.
Academic Climate	The researchers of this study defined academic climate as a composite index of two scales and one measure. The two scales represent school morale and school learning, and the measure is the percentage of a high school's 1988-1989 and 1990-1991 graduates who later attended a four-year college.
Communal Climate	The researchers of this study defined high school communal climate as the composite index of two scales: teachers' relationship with colleagues, and teachers' relationship with administrators.

### Statistical Analysis

Since students in the NELS:88 were collected with a complex sampling design that involved more than one level (i.e., sampled students were nested within sampled schools), we used a multilevel analysis as the fittest methodology to examine academic readiness using individual and high school characteristics.

This technique allows researchers to adjust standard errors: otherwise the standard errors of conventional statistical tests are too small and necessarily result in many spuriously significant statistical findings (Hox, 2002; Luke, 2004; Snijders & Bosker, 1999).

### Hierarchical Linear Modeling

We used Hierarchical Linear Modeling (HLM Version 6). This HLM program allowed for the simultaneous examination of the extent to

which student and school characteristics affect academic readiness for college. The HLM program can account for variations at each level and generate relationships between the dependent and the independent variables on both levels of a 2-level HLM test.

### Model Testing Procedure

Two stages were involved in testing the statistical model. Stage one involved estimating a so-called empty model, or variance model.

This model separates variance in outcome measures into two sources: (a) individual experiences (also known as level-1), and (b) high school characteristics (also known as level-2). The proportion of variance explained by schools is reflected in the intraclass correlation (notated as *ICC* or  $\rho$ ).

For academic readiness for college the intraclass correlation was estimated by specifying an empty model and it can be defined as:

$$\rho = \frac{\text{population variance between school-units}}{\text{total variance}} = \frac{\tau^2}{\tau^2 + \sigma^2}, \text{ where}$$

$\tau^2$  captures the between-group variability (the variance of the school-level errors,  $u$ ), while the  $\sigma^2$  parameter represents the within-group variability (the variance of the student-level errors,  $r$ ). *ICC* is the proportion of variance accounted for by the group level.

The second stage of the model testing is a series of block enterings of independent variables in the null model. The initial model began with only individual level characteristics. The second block entered in the model represented high school characteristics such as high school SES and high school race.

The third block accounted for high school type and school urbanicity. The fourth block incorporated teacher quality. The fifth block included high school climate, which was comprised of two measuring indices—high school academic climate and high school communal climate.

The final block introduced cross-level effects between high school climate (located at level-2) and family SES (located at level-1), which allowed us to consider how high school climate might moderate the effects of family SES on academic readiness and the taking of college admission tests.

In this paper, we reported the final model, especially focusing on high school effects. The equation models employed for each subject of reading, math, science, and history are as follows:

### Level-1 Model

$$\text{Academic Readiness} = B_0 + B_1 * (\text{prior achievement}) + B_2 * (\text{Asian vs. White}) + B_3 * (\text{Hispanic vs. White}) + B_4 * (\text{Black vs. White}) + B_5 * (\text{female vs. male}) + B_6 * (\text{parental involvement}) + B_7 * (\text{family SES}) + r$$

### Level-2 Model

$$B_0 = \gamma_{00} + \gamma_{01} * (\text{high school SES}) + \gamma_{02} * (\text{high school race}) + \gamma_{03} * (\text{Catholic school vs. public school}) + \gamma_{04} * (\text{private school vs. public school}) + \gamma_{05} * (\text{urban vs. suburban}) + \gamma_{06} * (\text{rural vs. suburban}) + \gamma_{07} * (\text{high school \% of teachers with professional degrees}) + \gamma_{08} * (\text{high school academic index}) + \gamma_{09} * (\text{high school communal index}) + u_0$$

$$B_7 = \gamma_{70} + \gamma_{71} * (\text{high school academic index}) + \gamma_{72} * (\text{high school communal index}) + u_7$$

## Results

The results of the statistical analyses show that high school characteristics affect student preparation for college consistent in all subjects (Appendix A). High school characteristics account for 30 to 37% ( $ICC = 0.3 \sim 0.37$ ) of the variance in test scores among high schools in all subjects under consideration among 12th graders. Individual characteristics explain the rest of academic readiness among 12th graders.

The results of the analyses also point to the following common and noticeable predictors of academic readiness across all subjects: prior academic achievement, high school SES, and high school climate. Irrespective of family circumstances or school conditions, prior academic achievement was the strongest predictor of academic readiness across each subject. Students with high prior

achievement were more likely to be academically prepared for college than students whose test scores were generally lower at the 10th grade.

Attending schools with wealthy youngsters improves students' chances of being academically ready for college. The effect of high school SES was moderate across the four subject areas, making it the second largest effect after prior achievement.

This finding indicates that schools that serve students with a lower average SES compare poorly with schools whose students have a higher SES, and that the effects of high school SES are relatively bigger than those of family SES on the academic readiness of 12th graders across all subjects. The family SES is a

consistently low effect factor of academic readiness (0.02 in reading, 0.11 in math, 0.04 in science, and 0.07 in history) and is qualified by *ceteris paribus*, while high school SES holds high effect size (between 0.47 and 0.56 for each subject).

High school climate is positively related to preparing students for college. The importance of the two components of high school climate varies by subject type. Although the effect sizes are small across the testing outcomes of four academic areas in the 12th grade, the effect of academic climate on academic readiness is significant across all subjects.

This finding reveals that students attending schools where academics are emphasized are more likely to succeed across all subjects at the end, suggesting a systemic link between student achievement and academic climate. The communal climate also shows a small but significant effect on selective disciplines such as science and history.

This result indicates that schools where teachers have positive relationships with colleagues and administrators have higher student academic performance in science and history in the 12th grade than their peer high schools where such relationships are missing.

### **Implications and Conclusions**

The impact of academic and communal climate on school effectiveness has long been debated; schools whose faculties emphasize academic climate typically implement strong achievement-related school goals, while those emphasizing communal climate are usually engaged in reorganizing instruction and school leadership.

This study demonstrates that academic climate does indeed matter. This finding has

important implications for school administrators and teachers. Administrators should redesign the curriculum and teachers should implement teaching strategies that will foster student learning. Recent studies have shown serious developments in effective teaching (Danielson, 1996) and learning (Bransford, Brown, & Cocking, 2000). Studies of high performing schools also provide salient factors of effective schools.

Effective schools commonly present the following characteristics (Odden & Odden, 1995):

- (a) clear goals focused on student achievement,
- (b) collaborative planning and collegial shared decision making,
- (c) a strong culture,
- (d) site-based management,
- (e) core curriculum,
- (f) instructional leadership,
- (g) recruitment of staff and socialization of staff into school norms,
- (h) school-wide professional development,
- (i) monitoring of student achievement, and
- (j) recognition of teacher and student accomplishments.

School administrators and teachers need to incorporate these principles into their curriculum design and teaching instruction, so that high school faculties can build an effective academic climate.

Administrators should encourage teachers to have positive attitudes about students' ability to learn. Through effective attitudes and actions, teachers can benefit their students' academic readiness for college, and the belief in students' ability to learn will serve as the central focus of academic emphasis in high school. High school students' learning is

improved by the sensitivity of school leaders to the characteristics of the student population, to a supportive education community building and to the belief that teachers will plan to do their best work and the curricula at the schools provide the most beneficial courses for students' academic readiness for college and for taking college admission tests (Schilling & Schilling, 1999).

In a communal high school one finds a caring and personal culture, which is one of the characteristics of an effective school, according to Bryk et al.(1993). The elements of community such as shared goals, collegial work, effective communication, and good personal interactions would make for effective high school organization, improving academic readiness for college.

The present study warrants one added comment. School administrators should maintain a long-term commitment to students' learning and develop a curriculum that is enriching, and which contains rigorous course work in order to foster students' academic readiness.

As shown in this study, academic readiness for college across all subjects is best predicted by prior academic achievement in the later years of high school. Students' 10th grade performance provides one of the key indicators (or benchmarks) of academic readiness for

college, and therefore sheds light on what areas school administrators and teachers should pay attention to in order to improve students' college preparedness.

It should be noted, however, that students understand what constitutes a college-ready curriculum by 9th grade (Tierney, Bailey, Constantine, Finkelstein, & Hurd, 2009). Furthermore, academic readiness can begin in middle school, if not earlier. Thus, not only a student's characteristics but also available resources and contexts at both the middle and high school levels are key to increasing students' readiness for college-level work (Cabrera & La Nasa, 2001).

Early opportunities for student advising may ensure that a wider range of students have the opportunity to prepare for college and follow necessary procedures such as taking standardized admission tests. Students' SAT and ACT scores arrive too late to intervene in and improve high school students' academic readiness. Tenth grade test scores can provide a reality check while two years remain for the student to prepare for college.

This early indicator of college academic readiness should ensure that a wide range of students will have the opportunity to set clear and achievable goals toward building the knowledge and skills they need for education beyond high school and for future careers.

### **Author Biographies**

Chul Lee is director of data analysis and institutional effectiveness at Wesley College. He received his doctorate from the University of Wisconsin at Madison. E-mail: LeeChul@wesley.edu

Eunyoung Kim is assistant professor in the department of education leadership, management and policy at Seton Hall University. She received her doctorate from the University of Illinois at Urbana-Champaign. E-mail: eunyoung.kim@shu.edu

## References

- Achieve. Inc. (2004). *The expectations gap: A 50-state review of high school graduation requirements*. Washington, DC: Author.
- ACT Inc. (2009). *The condition of college readiness 2009*. Iowa City, IA: Author.
- Adelman, C. (2004). *The empirical curriculum: Changes in postsecondary course-taking, 1972-2000*. Washington, DC: U.S. Department of Education.
- Adelman, C. (2006). *The Toolbox Revisited: Paths to Degree Completion from High School Through College*. Washington, DC: U.S. Department of Education.
- Anderson, C. S. (1982). The search for school climate: A review of the research. *Review of Educational Research*, 52(3), 368-420.
- Berkner, L., Chavez, L., & Carroll, C. D. (1997). *Access to postsecondary education for the 1992 high school graduates* (No. NCES 98-105). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How People Learn: Brain, Mind, Experience, and School* (Expanded Edition ed.). Washington, DC: National Academy Press.
- Brookover, W., Beady, C., Flood, P., Schweitzer, J., & Wisenbaker, J. (1979). *School social systems and student achievement: Schools can make a difference*. New York: Praeger.
- Bryk, A. S., Lee, V. E., & Holland, P. B. (1993). *Catholic schools and the common good*. Cambridge, Massachusetts: Harvard University.
- Cabrera, A. F., & La Nasa, S. M. (2001). On the path to college: Three critical tasks facing America's disadvantaged. *Research in Higher Education*, 42(2), 119-149.
- Cataldi, E. F., & KewalRamani, A. (2009). *High school dropout and completion rates in the United States: 2007 compendium report* (No. NCES 2009-064): U.S. Department of Education, National Center for Education Statistics.
- Choy, S. P. (2002). *Access & persistence: Findings from 10 Years of longitudinal research on students*. Washington, DC: American Council on Education.
- Choy, S. P., Horn, L. J., & Nunez, A.-M. (2000). Transition to college: What helps at-risk students and students whose parents did not attend college. In A. F. Cabrera & S. M. La Nasa (Eds.), *Understanding the college choice of disadvantaged students: New directions for institutional research* (Vol. 107, pp. 45-63). San Francisco: Jossey-Bass.

- Cook, T. D., Murphy, R. F., & Hunt, H. D. (2000). Comer's school development program in Chicago: A theory-based evaluation. *American Educational Research Journal*, 37(2), 535-597.
- Danielson, C. (1996). *Enhancing professional practice: A framework for teaching*. Alexandria, Virginia: ASCD.
- Forster, G. (2006). The embarrassing good news on college access. *School & College: A special report from the Chronicle of Higher Education*, LII, 50-51.
- Haycock, K. E., Barth, P. E., Mitchell, R. E., & Wilkins, A. E. (1999). Ticket to nowhere: The gap between leaving high school and entering college and high-performance jobs. *Thinking K-16*, 3(2), 1-9.
- Hox, J. (2002). *Multilevel analysis: Techniques and applications*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Kirst, M. W., & Bracco, K. R. (2004). Bridging the great divide: How the K-12 and postsecondary split hurts students, and what can be done about it. In M. W. Kirst & A. Venezia (Eds.), *From high school to college: Improving opportunities for success in postsecondary education* (pp. 1-30). San Francisco: Jossey-Bass.
- Lee, V. E., & Smith, J. B. (1999). Social support and achievement for young adolescents in Chicago: The role of school academic press. *American Educational Research Journal*, 36(4), 907-945.
- Lerner, J. B., & Brand, B. (2006). *The college ladder: Linking secondary and postsecondary education for success for all students*: American Youth Policy Forum.
- Luke, D. A. (2004). *Multilevel modeling* (Vol. 143). Thousand Oaks, CA: SAGE.
- Martinez, M., & Klopott, S. (2005). *The link between high school reform and college access and success for low-income and minority youth*. Washington, DC: American Youth Policy Forum and Pathways to College Network.
- McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. Albany, NY: State University of New York Press.
- McDonough, P. M. (2003). College choice in a cultural context. In F. K. Stage, D. F. Carter, D. Hossler & E. P. S. John (Eds.), *Theoretical perspectives on college students*. Boston, MA: Pearson Custom Publishing.
- Odden, A., & Odden, E. (1995). *Educational leadership for America's schools*. New York: McGraw-Hill.



- Parsad, B., & Lewis, L. (2003). *Remedial education at degree-granting postsecondary institutions in Fall 2000: Statistical analysis report*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Pathways to College Network (2007). *Aligning P-12 and postsecondary education: Toward a seamless P-16 education system* Retrieved September 15, 2009, from <http://www.pathwaystocollege.net/pdf/alignment.pdf>
- Perna, L. W., & Titus, M. A. (2005). The relationship between parental involvement as social capital and college enrollment: An examination of racial/ethnic group differences. *Journal of Higher Education, 76*(5), 485-518.
- Phillips, M. (1997). What Makes Schools Effective? A Comparison of the Relationships of Communitarian Climate and Academic Climate to Mathematics Achievement and Attendance During Middle School. *American Educational Research Journal, 34*(4), 633-662.
- Rafferty, T. J. (2003). School climate and teacher attitudes toward upward communication in secondary schools. *American Secondary Education, 31*(2), 49-70.
- Rooney, P., Hussar, W., Planty, M., Choy, S., Hampden-Thompson, G., Provasnik, S., et al. (2006). *The condition of education, 2006* (No. NCES 2006-071). Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Schilling, K. M., & Schilling, K. L. (1999). Increasing expectatins for student effort. *About Campus, 4*(2), 4-10.
- Schneider, B. (2003). Strategies for success: High school and beyond. In D. Ravitch (Ed.), *Brookings Paper on Education Policy 2003* (pp. 55-93). Washington, DC: Brookings Institution Press.
- Shouse, R. C. (1996). Academic press and sense of community: Conflict, congruence, and implications for student achievement. *Social Psychology of Education, 1*(1), 47-68.
- Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. Thousand Oaks, CA: SAGE.
- Tierney, W. G., Bailey, T., Constantine, J., Finkelstein, N., & Hurd, N. F. (2009). *Helping students navigate the path to college: What high schools can do. IES practice guide*. (No. NCEE 2009-4066): What Works Clearinghouse.
- Tierney, W. G., & Hagedorn, L. S. (Eds.). (2002). *Increasing access to college: Extending possibilities for all students*. Albany, NY: State University of New York Press.
- Wimberly, G. L., & Noeth, R. J. (2004). *Schools involving parents in early postsecondary planning*. Iowa City, IA: ACT.

Wirt, J., Choy, S., Rooney, P., Provasnik, S., Sen, A., & Tobin, R. (2004). *The condition of education 2004* (No. NCES 2004-077): U.S. Department of Education, National Center for Education Statistics.

**APPENDIX A**

**RESULTS OF STATISTICAL ANALYSIS**

## Standardized Effects of Individual and School Variables on Four Measures of Academic Readiness for College

	Academic readiness in reading	Academic readiness in math	Academic readiness in science	Academic readiness in history
Constant	-0.064	0.140 <sup>***</sup>	0.191 <sup>**</sup>	0.131 <sup>**</sup>
Prior Achievement				
<i>Overall (mean) score in the 10<sup>th</sup></i>	-	-	-	-
<i>Mean score excluding reading in</i>	0.738 <sup>***</sup>	-	-	-
<i>Mean score excluding math in the</i>	-	0.706 <sup>***</sup>	-	-
<i>Mean score excluding science in</i>	-	-	0.731 <sup>***</sup>	-
<i>Mean score excluding history in</i>	-	-	-	0.716 <sup>***</sup>
Student Race				
<i>Asian vs. White</i>	-0.034	0.236 <sup>***</sup>	-0.019	0.054
<i>Hispanic vs. White</i>	-0.036	-0.096 <sup>**</sup>	-0.106 <sup>**</sup>	0.000
<i>Black vs. White</i>	-0.191 <sup>***</sup>	-0.183 <sup>***</sup>	-0.315 <sup>***</sup>	-0.097 <sup>*</sup>
Student Gender				
<i>Female vs. male</i>	0.314 <sup>***</sup>	-0.090 <sup>***</sup>	-0.296 <sup>***</sup>	-0.160 <sup>***</sup>
Parental Involvement	0.060 <sup>***</sup>	-0.003	0.012	0.060 <sup>***</sup>
Family SES				
<i>Constant</i>	0.022	0.108 <sup>***</sup>	0.037 <sup>**</sup>	0.068 <sup>***</sup>
<i>High School Academic Index</i>	-0.059 <sup>***</sup>	-0.014	0.015	0.032 <sup>*</sup>
<i>High School Communal Index</i>	0.015	-0.043 <sup>**</sup>	0.039 <sup>*</sup>	0.017
High School SES	0.482 <sup>***</sup>	0.563 <sup>***</sup>	0.511 <sup>***</sup>	0.471 <sup>***</sup>
High School Race				
<i>&gt; 60% of White and Asian</i>	0.071	0.043	0.140 <sup>**</sup>	0.086
High School Type				
<i>Catholic vs. Public</i>	-0.024	-0.087	-0.155 <sup>**</sup>	-0.029
<i>Private vs. Public</i>	0.086	0.122	0.143 <sup>*</sup>	0.074
High School Urbanicity				
<i>Urban vs. Suburban</i>	0.061	0.084 <sup>*</sup>	0.024	0.108 <sup>**</sup>
<i>Rural vs. Suburban</i>	-0.033	0.041	0.050	-0.017
High School % of Teachers with Professional degree	0.025	0.027	0.049 <sup>**</sup>	0.025
High School Climate				
<i>High School Academic Index</i>	0.082 <sup>***</sup>	0.087 <sup>***</sup>	0.062 <sup>**</sup>	0.081 <sup>***</sup>
<i>High School Communal Index</i>	0.030	0.023	0.040 <sup>**</sup>	0.074 <sup>***</sup>

\*  $p < 0.10$     \*\*  $p < 0.05$     \*\*\*  $p < 0.01$

## Research Article

# Is Shared Leadership Right for Your School District?

Joni C. Poff, EdD  
 Supervisor of Secondary Instruction  
 Botetourt County Public Schools  
 Botetourt, VA

David J. Parks, PhD  
 Professor, School of Education  
 Virginia Polytechnic Institute and State  
 University  
 Blacksburg, VA

## Abstract

Despite the lack of evidence supporting the direct effects of shared leadership on student achievement, there is evidence that shared leadership may have very positive effects on school culture variables that, in turn, affect student achievement. These indirect effects are sufficient to make shared decision making a worthwhile school reform effort. One problem with implementing shared leadership, however, is defining what shared leadership looks like in practice. In this study, a panel of experts reached consensus on critical elements of effective shared leadership. These elements may be used in planning, implementing, and evaluating shared leadership in schools and districts.

## Keywords

Principal Leadership, Shared Leadership, Collective leadership

**S**chool leaders cannot achieve their missions and goals alone. The complexity of education requires a team of knowledgeable and skilled practitioners who share leadership to achieve the ends of reform-based schooling. Shared leadership is the end-result of a deliberative process of assigning, in a dynamic-interactive way, the work and responsibilities of leaders in a school district.

## Why Consider Shared Leadership?

Forms of shared leadership, under various labels, have been around educational venues for a long time (Likert, 1961; Little, 1988; Midgley & Woods, 1993; Murphy, 2005; Murphy, Smylie, Mayrowetz, & Louis, 2009; Pearce & Conger, 2003; Sergiovanni & Starratt, 1971; Spillane, 2006; Spillane, Halverson, & Diamond, 2001). Despite supportive rhetoric as

described by Leithwood and Mascall (2008) and the inability of researchers to find evidence verifying an advantage of shared leadership over hierarchical leadership for student achievement (Miller & Rowan, 2006), there may be good reasons for moving your school operation to one that involves teachers, staff, parents, and students in decision-making processes.

First, we could find no evidence to support the conclusion that shared leadership is inferior to hierarchical, directive leadership in promoting student achievement. If it is true that shared leadership and directive leadership are equal in effect on student achievement, then the other benefits of shared leadership come into play.

These benefits are:

- (a) a moral imperative for inclusion of stakeholders in decisions about policy and practice (Fullan, 2003),
- (b) the efficient and effective use of human resources (Witziers, Bosker, & Kruger, 2003), and
- (c) cultural and climatic conditions that facilitate student learning (Hara, 2009).

These variables, particularly those associated with culture, climate, and the use of personnel, have been found to have direct effects on student achievement (Leithwood & Mascall, 2008; MacNeil, Prater, & Busch, 2009).

Second, schools are complex professional organizations with uncertain technologies (Miller & Rowan, 2006). Seldom can one person be an expert in all aspects of the operation. Despite the evidence that school organizations with organic (i.e., shared) decision making don't directly increase student achievement, there is evidence that a hybrid of

hierarchical and distributed leadership can produce the desired outcomes. Leithwood and Mascall (2008) identified a form of leadership that they labeled *intelligent hierarchy*.

This form of leadership combined the benefits of hierarchical leadership with the benefits of broad-based participation evident in organic leadership. This integrated form of leadership was found in their higher achieving schools. This finding helps researchers to sort out some of the confusion about leadership. Leadership does not have to be one type or another; rather, it can be a blend of leadership styles, behaviors, and views.

A third reason is that the criterion measure for the effectiveness of shared leadership does not have to be student achievement. Student achievement has become education's Holy Grail. Educators are driven to pursue achievement to the virtual exclusion of all other possible outcomes. This trend has been detrimental to the development and implementation of such ideals as workplace democracy, communal decision making, employee morale, employee job satisfaction, student and parent satisfaction with schooling, and life-work-study balance.

It may be time to apply a different set of values to schooling, specifically a set more in line with caring, trusting, and supportive environments for students and teachers (e.g., Bryk & Schneider, 2002; Noddings, 2006). In the present culture of accountability, this notion is near heresy; however, these more trusting, supportive, and caring environments have been found to be related to motivation of both students (McLaughlin & Talbert, 1993) and teachers (Hord, 1997). Motivation, in turn, has been found to have a positive effect on student achievement (Leithwood & Mascall, 2008).

### What is Shared Leadership?

Due to the varying contexts in which shared leadership is applied, there is ambiguity in its conceptualization and implementation. Extant literature, spanning some 90 years, includes numerous commentaries and research reports on various aspects of shared leadership.

Mary Parker Follett (1924), an early advocate, stated that problems of labor and management could best be solved by people sitting around a table and discussing openly their differences. In the 1930s, 40s, and 50s, democratic management and supervision were popular (Koopman, Miel, & Misner, 1943; Wiles, 1953). In the 1960s, Likert (1961) advocated participative management.

In fairly rapid succession, various forms of decentralized management became popular. They had such labels as:

- (a) organic management,
- (b) self-managed work teams,
- (c) site-based management,
- (d) distributed leadership,
- (e) teacher empowerment,
- (f) collaborative leadership,
- (g) learning organizations, and
- (h) professional learning communities.

This history is rich in ideas, but short on operational clarity. Ergo, we took on the task of

seeking the essential elements of and clarifying the concept sufficiently to help those who might want to implement some form of shared leadership in their school districts.

### How Were the Essential Elements of Shared Leadership Identified?

In our attempt to understand shared leadership in its finest details of practice, we collected data from a panel of 16 writers, superintendents, principals, and teachers who had either research-based or first-hand knowledge of shared leadership in the school environment. Sixteen people participated in at least one round of a three-round Delphi Technique. The results, we believe, are a set of characteristics, behaviors, and cultural conditions that in totality comprise a realistic operational concept of shared leadership.

The panel identified 220 characteristics, behaviors, and cultural conditions affecting shared leadership in the first round of the Delphi procedure. These items were returned twice to the panelists for review and revision.

At the end of the third round, 15 items in five domains were rated as very good or excellent descriptors of shared leadership by 100% of the panelists. We called these the *essential elements* of shared leadership.

See Table 1.

Table 1

*The Essential Elements of Shared Leadership by Domain*

Domain	Essential element
Collaboration	<ul style="list-style-type: none"> <li>• School personnel who collaborate in achieving goals</li> <li>• Leaders who support collaborative efforts</li> <li>• A staff that holds collaboration as a priority</li> <li>• A shared belief that collaboration can have a significant impact</li> </ul>
Common focus	<ul style="list-style-type: none"> <li>• A focus on common, agreed-upon goals</li> <li>• An ability of the leaders to convey a compelling vision of shared leadership</li> </ul>
Shared responsibility	<ul style="list-style-type: none"> <li>• Teacher leadership of professional development that is linked to school-based learning goals</li> <li>• Administrative delegation of authentic power</li> <li>• A willingness on the part of leaders to give up some control while monitoring effectiveness of decisions</li> <li>• Involvement of shareholders in decisions that matter, not minutia</li> <li>• Group decisions based on information</li> </ul>
Supportive culture	<ul style="list-style-type: none"> <li>• A culture of mutual trust</li> <li>• The acceptance of collective efficacy as a critical value</li> <li>• Honesty among staff members</li> </ul>
Widespread communication	<ul style="list-style-type: none"> <li>• Communication of clear purposes for shared leadership</li> </ul>

Another 67 items were identified by at least 80% of the panelists as either very good or excellent descriptors of shared leadership. These items are in the appended self-rating scale (Appendix A).

Five domains paint the “big picture” of shared leadership. These domains include (a) collaboration, (b) common focus, (c) shared responsibility, (d) supportive culture, and (e) widespread communication and appear to be self-defining. Items falling within the domains add clarity and detail to the picture. These items are identified in Appendix A and are necessary for understanding exactly what is included in each of the domains.

Each of the five domains of shared leadership has its place in the operation of an effective unit. The complexity of improvement necessitates collaboration if goals are to be met.

A common focus directs the work. All members work toward agreed-upon goals and monitor the success of efforts toward meeting those goals. Staff members willingly share responsibility. A sense of collective accountability extends across a wide spectrum of activities and commands the attention of all participants. A supportive culture exists in which shared leadership can thrive. The culture gives members a sense of personal value and collective efficacy.

Widespread communication ensures a constant flow of information. All members understand the goals and the expectations for adults and students. The practice of these critical components creates a web of interdependent relationships among people, tasks, and context. For shared leadership to be implemented effectively, members of the educational community must attend to these key areas.



## Some Final Thoughts

There is ample opinion, some research, and a smattering of anecdotal evidence from practice that lend credence to shared leadership as an effective organization process for education. Educators interested in using shared leadership as a vehicle for school improvement must recognize its operational processes and contexts.

Our recommendations, based on our own research and extant literature, is summarized as follows:

1. Broadly share leadership responsibility for planning and implementation of the district's mission and goals.
2. Focus the attention of all leaders and followers on the primary targets (i.e., goals) of the district. Communicate these targets often and emphasize that achieving these targets necessitates collaboration.
3. Ensure that authentic collaboration is the foundation of all processes in your district.
4. Personally exemplify and nurture a culture characterized by mutual trust, honesty, and encouragement of individual and group contributions to the work of the district.
5. Practice communication that distributes important information to all individuals.

Although the focus of the questions posed to the panelists was on shared leadership in schools, we believe that the identified characteristics, behaviors, and cultural conditions can be widely generalized across educational settings.

Those in the role of superintendent or unit head may be interested in assessing shared-leadership practices by using the appended rating form to assess the extent to which current practices are in line with those characteristics, behaviors, and shared-leadership environments recommended by the expert panelists. Results may be used to stimulate discussion about and reflection on whether shared leadership is right for the district or unit.

## Author Biographies

Joni Poff is the supervisor of secondary instruction for Botetourt County Public Schools in Botetourt, Virginia. She has been an elementary and secondary teacher in special education and general education, and has served as a supervisor for special education, English, Title I, and Title III programs. E-mail: [jpoff@bcps.k12.va.us](mailto:jpoff@bcps.k12.va.us)

David Parks is professor of educational leadership and policy studies at Virginia Tech and teaches leadership in initial preparation and advanced programs. He has served as a public school teacher, school principal, principal preparation program leader, and associate director of a school of education. E-mail: [parks@vt.edu](mailto:parks@vt.edu)

## References

- Bryk, A. S., & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. New York: Russell Sage Foundation.
- Follett, M. P. (1924). *Creative experience*. New York: Longmans, Green.
- Fullan, M. (2003). *The moral imperative of school leadership*. Thousand Oaks, CA: Corwin.
- Hara, N. (2009). *Communities of practice: Fostering peer-to-peer learning and informal knowledge sharing in the workplace*. Berlin: Springer.
- Hord, S. M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Austin, TX: Southwest Educational Development Laboratory (ERIC Document Number EA028554). Retrieved June 3, 2009, from [http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/14/ed/24.pdf](http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/14/ed/24.pdf)
- Koopman, R. G., Miel, A., & Misner, P. J. (1943). *Democracy in school administration*. New York: Appleton-Century-Crofts.
- Leithwood, K., & Mascal, B. (2008). Collective leadership effects on student achievement. *Educational Administration Quarterly*, 44(4), 529-561.
- Little, J. W. (1988). Assessing the prospects for teacher leadership. In A. Lieberman (Ed.), *Building a professional culture in schools* (pp. 78-106). New York: Teachers College Press.
- Likert, R. (1961). *New patterns of management*. New York: McGraw-Hill.
- MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12(1), 73-84.
- McLaughlin, M., & Talbert, J. (1993). *Contexts that matter for teaching and learning*. Stanford, CA: Stanford University.
- Midgley, C. & Woods, S. (1993). Beyond site-based management: Empowering teachers to reform schools. *Phi Delta Kappan*, 75(3), 245-252.
- Miller, R. J., & Rowan, B. (2006). Effects of organic management on student achievement. *American Educational Research Journal*, 43(2), 219-253.
- Murphy, J. (2005). *Connecting teacher leadership and school improvement*. Thousand Oaks, CA: Corwin.
- Murphy, J., Smylie, M., Mayrowetz, D., & Louis, K. S. (2009). The role of the principal in fostering the development of distributed leadership. *School Leadership & Management*, 29(2), 181-214.

- Noddings, N. (2006). *Critical lessons: What our schools should teach*. New York: Cambridge University Press.
- Pearce, C. L., & Conger, J. A. (Eds.). (2003). *Shared leadership: Reframing the hows and whys of leadership*. Thousand Oaks, CA: Sage.
- Sergiovanni, T. J., & Starratt, R. J. (1971). *Emerging patterns of supervision: New perspectives*. New York: McGraw-Hill.
- Spillane, J. P. (2006). *Distributed leadership*. San Francisco: John Wiley & Sons.
- Spillane, J. P., Halverson, R., & Diamond, J. B. (2001). Investigating leadership practices: A distributed perspective (Electronic version). *Educational Researcher*, 30(3), 23-28.
- Wiles, K. (1953). *Supervision for better schools*. Englewood Cliffs, NJ: Prentice-Hall.
- Witziers, B., Bosker, R. J., & Krüger, M. L. (2003). Educational leadership and student achievement: The elusive search for an association. *Educational Administration Quarterly*, 39(3), 398–425.

## APPENDIX A

### Shared Leadership Assessment Scale

This instrument was designed to assist leaders in assessing characteristics, behaviors, and cultural conditions associated with shared leadership. Listed below are attributes that experts believe are descriptive of effective shared leadership. Rate each item according to the degree the attribute is exhibited in your setting. The rating scale is 1- 4, with 1 being a low degree and 4 being a high degree. Please circle the number of your response. Use the results to discuss where your unit is at the present and to set goals for improving your shared leadership.

<b>The shared responsibility of staff and leaders is characterized by...</b>	
1. Multiple member-led decision-making teams	1 2 3 4
2. Involvement of stakeholders in decisions that matter, not minutia	1 2 3 4
3. Distributed responsibility for the work	1 2 3 4
4. The acceptance of collective efficacy as an important value	1 2 3 4
5. A willingness of participants to take on new roles	1 2 3 4
6. Administrative delegation of authentic power	1 2 3 4
7. A sense of collective accountability	1 2 3 4
8. A culture of trust	1 2 3 4
9. Trustworthy staff members	1 2 3 4
10. A leader who shares power while monitoring effectiveness of decisions	1 2 3 4
11. Participant willingness to invest in shared leadership	1 2 3 4
12. A distributed power structure	1 2 3 4
13. Numerous formal and informal leaders	1 2 3 4
14. Clear purpose statements for use of a shared leadership model	1 2 3 4
15. An administration that supports innovation	1 2 3 4
16. Structures that facilitate shared learning of the staff	1 2 3 4
17. Member-led professional development that is linked to unit-based learning goals	1 2 3 4
18. Group decision making based on information	1 2 3 4
19. The matching of personal strengths to jobs or tasks	1 2 3 4
20. Distributed accountability for meeting the mission	1 2 3 4
21. The involvement of all stakeholders prior to decision making, rather than expecting stakeholders to rubber stamp decisions that already have been made	1 2 3 4

<b>Our unit's culture supports...</b>	
22. A sense of collective responsibility	1 2 3 4
23. Teacher efficacy as a critical value	1 2 3 4
24. Respect for different views	1 2 3 4
25. Respect for different experiences	1 2 3 4
26. A sense of belonging	1 2 3 4
27. A sense of connectedness	1 2 3 4
28. A positive attitude that permeates the culture	1 2 3 4
29. Recognizing different view points	1 2 3 4
30. Recognizing individual and group contributions	1 2 3 4
31. The belief that mistakes are learning opportunities	1 2 3 4
<b>Widespread communication across our unit is facilitated by...</b>	
32. Proactive communication that supports engagement of all	1 2 3 4
33. Open dialogue among participants	1 2 3 4
34. The ability to voice one's opinion without penalty	1 2 3 4
35. Honesty among staff members	1 2 3 4
36. Respectful consideration of suggestions	1 2 3 4
37. Adequate information among staff	1 2 3 4
38. The belief that listening is essential to the communication process	1 2 3 4
39. Participation in group reflection on instructional practice	1 2 3 4
40. Decision making that is transparent to all participants	1 2 3 4
<b>Our unit has a common focus that drives...</b>	
41. A single vision among staff members	1 2 3 4
42. Shared ownership of a corporate mission	1 2 3 4
43. Participation in setting organizational direction	1 2 3 4
44. Decision making based on what is good for the entire group	1 2 3 4
45. Ongoing dialogue around corporate mission, vision, or values	1 2 3 4
46. A belief that there is always room for improvement	1 2 3 4
47. How work is prioritized	1 2 3 4
48. All efforts being connected to "the big picture"	1 2 3 4

49. Leaders to convey a compelling vision of shared leadership	1 2 3 4
50. Continuous professional development relevant to shared leadership	1 2 3 4
51. Our leader to ensure school structures allow for shared leadership	1 2 3 4
52. An expectation that students will learn	1 2 3 4
53. An expectation that the adults will learn	1 2 3 4
54. Communication of clear expectations	1 2 3 4
<b>Collaboration among stakeholders is evidenced by...</b>	
55. A shared belief that working in unison can have a significant impact	1 2 3 4
56. An expectation that participants will work as a team	1 2 3 4
57. Sharing of expertise among staff members	1 2 3 4
58. Working collectively to reach agreed upon goals	1 2 3 4
59. Leadership that supports collaborative efforts	1 2 3 4
60. An atmosphere of cooperation	1 2 3 4
61. A mutually supportive culture	1 2 3 4
62. Intentional actions of joint effort and work	1 2 3 4
63. Multiple opportunities for active involvement of stakeholders	1 2 3 4
64. Giving priority to collaborative work	1 2 3 4
65. Allowing members time to share experiences	1 2 3 4
<b>Shared leadership in our unit is hindered by...</b>	
66. A lack of structures for sharing information	1 2 3 4
67. Limited dialogue around corporate mission, vision, or values	1 2 3 4
68. Limited flow of information	1 2 3 4
69. Inadequate information among staff	1 2 3 4
70. Secretive actions	1 2 3 4
71. Participant unwillingness to invest in shared leadership	1 2 3 4
72. A power structure that is top down	1 2 3 4
73. Leadership roles that are limited to a few individuals	1 2 3 4
74. A lack of acceptance of input	1 2 3 4
75. A perception that the unit is "good enough"	1 2 3 4
76. Unclear purposes of shared leadership	1 2 3 4
77. Work that is unfocused	1 2 3 4

78. A staff that does not see the “whole picture”	1	2	3	4
79. A sense of negativity that permeates the culture	1	2	3	4
80. Acceptance of the status quo	1	2	3	4
81. An inability of the leaders to convey a compelling vision of shared leadership	1	2	3	4
82. Major changes that are made unilaterally by administrators without getting participant buy-in	1	2	3	4

## Commentary

# A Critical Analysis of Educational Standards

Donald C. Orlich, PhD  
 Professor Emeritus  
 Washington State University  
 Pullman, WA

## Abstract

Under pressure from the U. S. Department of Education (USDOE) and select private foundations, state officials have rushed to establish and enforce sets of standards for the K-12 public schools sector. This writer analyzed selected samples from several state sets and found them to be technical specifications without the needed prerequisite learning experiences. The bulk of published state standards tend to not follow any outline or systematic flow. In no case did any state show any pre-testing of the standards before mandating them. Published critiques of the standards tend to grade them a “C” and “F.” The writer concludes that state standard writers identify what aspects of student achievement are supported empirically, and then rewrite them in carefully sequenced threads.

## Keywords

Education Standards, Curriculum, School Reform

Under pressure from the U. S. Department of Education (USDOE) and select private foundations, state officials have rushed to establish and enforce sets of standards for the K-12 public schools sector (See: Goals 2000, NCLB, Achieve, Inc., and Eli & Edythe Broad Foundation). Thousands of pages of standards have been developed. What follows is an analysis that stems from examining several samples from a sampling of states.

## Technical Specifications for Learning

An assessment of the tone of writing in the many sets of standards shows application of

inappropriate technical specifications to human nature. Each published standard resembles a product specification. For example, most begin with a statement that “the student will \_\_\_\_\_” (just fill in the blank). Replace the student with battery, and the specifications are that the battery will light a three-watt bulb for two hours.

Such technically oriented statements of student achievement omit the conditions under which the learning should occur and completely ignore the needed educational prerequisites and materials required to learn, e.g., the opportunity to learn (OTL) variables.



This dimension of the standards movement has plainly dehumanized much of the educational process. Students simply become objects to be manipulated.

This author suggests reading Martin Buber (1970) in which he vividly illustrates how our actions toward fellow human beings show how we perceive them. If we view children, adolescents or early adults only as objects rather than as humans to be nurtured, then schooling takes on a mechanistic dimension. Kozol (2005) shockingly illustrated how standards and high stakes tests become more important than the cultivation of a child's potential.

An unintentional result of not recognizing a dehumanizing factor is that schools are now, more than ever, considered assembly lines of knowledge. Students become "products." Such industrial metaphors are inappropriate for delicate human services. Yet, these same technical specifications are praised as the means for reaching that frequently noted cliché—*world-class standards*.

My analyses of the many sets of reform standards that have emerged in the United States revealed none that were based on empirical testing prior to implementation. The standards were often constructed via a committee. In this sense, the standards are dogmatic pronouncements of what children in elementary, middle, and secondary schools "should" master.

The standards movement is authoritarianism. Further, standards were not analyzed to determine their developmental appropriateness (Epstein, 2002). An example of how absurd the setting of standards can be is in the state of Washington. The state superintendent proudly announced in both print and words the following for Grade 4 students.

"In determining the level, the committee was guided by what they believed a 'well-taught, hard-working student' should be able to do in the spring of the 4<sup>th</sup> grade." (Bergeson, et al., 2000)

This was claimed to be "thorough expert judgment." This state's standards define no thread that ties the mélange together, nor is any prerequisite learning noted.

### A Short Sampling of Standards Statements

With all 50 states now (2010) having standards for public school curriculum, let us review a tiny sample of them—keeping in mind that, in total, thousands of pages are on file.

#### Mathematics

*Arizona.* The Grand Canyon State spelled out in detail the mathematics standards by grade level.

At the high school level, "strands" relate to "number sense and operations"; "data analysis, probability and discrete mathematics"; "geometry"; and "logic." Below are two examples:

1. Apply subscripts to represent ordinal positions.
2. Interpret the relationship between data suggested by tables/matrices, equations or graphs.

*Ohio.* The Buckeye State standards included the following:

Grades 5–7.

1. Relate mathematical ideas to one another and to other content areas; e.g., use area models for adding fractions; interpret graphs in

reading, science, and social studies.

2. Explain how inverse operations are used to solve linear equations.

Grade 8.

Demonstrate an understanding that the probability of either of two disjoint events occurring can be found by adding the probabilities for each and that the probability of one independent event following another can be found by multiplying the probabilities.

Grade 9.

1. Define the basic trigonometric ratios in right triangles: sine, cosine and tangent.
2. Use theoretical and experimental probability, including simulations or random numbers, to estimate probabilities and to solve problems dealing with uncertainty; e.g., compound events, independent events and simple dependent events.

### Social Science

*California.* The following are from the Golden State's history-social science content standards:

Grade 5.

1. Describe the competition among the English, French, Spanish, Dutch and Indian nations for control of North America.
2. Identify the significance and leaders of the First Great Awakening, which marked a shift in religious ideas, practices and allegiances in the colonial period, the growth of religious toleration and free exercise of religion.

*Colorado.*

The Centennial State has what state education personnel call model content standards for economics:

Grades 5–8.

Describe how different economic systems affect the allocation of resources. (For example, steel production in the former Soviet Union was determined by economic planners. This affected the allocation of many resources: coal, labor, etc. In the United States, all of these resources are allocated by the market).

### English/Language Arts (ELA)

Published standards in ELA are copious. Here's a tiny sampling:

*Florida.*

Grades 6–8.

Determine main concept supporting details, stereotypes, bias and persuasion techniques in a non-print message.

*Massachusetts.*

Grade 7.

1. Students will identify, analyze and apply knowledge of the themes, structure and elements of myths, traditional narratives and classical literature and provide evidence from the text to support their understanding.
2. Identify and analyze similarities and differences in mythologies from different cultures (for example, ideas of the afterlife, roles and characteristics of deities, types and purposes of myths).

*North Carolina.*

## Grade 12.

1. Recognize common themes that run through works, using evidence from the texts to substantiate ideas.
2. Relate the cultural and historical contexts to the literature, identifying perceived ambiguities, prejudices and complexities.

*Texas.*

In the Lone Star State, the standards were included in the Texas Administrative Code (giving them a legal status).

This excerpt, from the Grade 5 English Language Arts and Reading Standards, provides an example of specificity:

## Listening/Speaking/Culture.

The student listens and speaks to gain and share knowledge of his/her own culture, the culture of others, and the common elements of cultures. The student is expected to:

- (a) connect his/her own experiences, information, insights, and ideas with the experiences of others through speaking and listening (4-8);
- (b) compare oral traditions across regions and cultures (4-8); and
- (c) identify how language use, such as labels and sayings, reflects regions and cultures (4-8).

**Looking Critically at State Standards**

State standards cover many topics, concepts, and subjects. Most appear to be randomly generated, even though several states' documents explain that they are modeled after the many nationally published sets. The lengthy lists are sometimes not arranged in a meaningful sequence or hierarchical order. The standards collectively do not have flow charts or illustrate how a student or teacher progresses from one standard to another. Disturbingly, there is an implied 100/100 criterion for the standards: *Every* child must meet *every* standard. (NCLB dictates that every child must pass a state test by 2013/2014.)

**Standards and Accountability**

Standards are one of two aspects of educational reform. Another is accountability, which is defined by testing the children at grades 3–8 and at least one year in high school. Arizona developed an Arizona Instrument to Measure Standards (AIMS) to use in assessing math skills. When first given in late 1999 and early 2000, at grade 10, the AIMS failure rate was extremely high, approaching 90 % for all test-takers and 97 % for students of color.

As late as 2002, more than 80 % of minority students failed and 66 % of all test-takers failed (Amrein & Berliner, Note 46, 2002.) So Glass and Edholm (2002) conducted a survey to test the validity of the math skills being assessed by the AIMS tests. They determined how relevant the tests and test results were to a student's future success in the workplace.

Glass and Edholm sent questionnaires to 54 managers in 10 different categories of industries in the greater Phoenix area. Forty-three completed their questionnaires (a respectable 80 % return rate). Results were not encouraging for those who asserted that tests

and standards lead unequivocally to school improvement. The affirmative response rate to the survey prompt “mathematics used in daily work” ranged from a high of 26 % to a low of 7 %. Glass and Edholm stated, “The overall conclusion is undeniably one in which these managers regard the mathematics tested by Grade 10-AIMS mathematics test as irrelevant to the functioning of their employees” (2002, p. 3).

A similar example was in the Grade 5 science exam for Washington state:

*Compare the strength of one force to the strength of another force.*

The author of this paper has implemented hands-on, minds on, elementary science programs for 33 years, has had over 20 (NSF) grants, and cannot answer that question. Can you?

### **Another Word About Standards**

Standards could be organized and meaningful, as is shown by the American Association for the Advancement of Science’s *Atlas of Science Literacy* (2001). The *Atlas* adapts the seminal work on hierarchical analysis perfected by R. M. Gagné under AAAS auspices in the 1960s. Hierarchies show the relationship of various topics and concepts to be learned. The better ones show the prerequisite knowledge needed to succeed at each point. The *Atlas* has “strand maps” that show how selected benchmarks, concepts or learning outcomes are sequentially and systematically taught from Kindergarten to grade 12. The AAAS *Atlas* addresses one of the gross deficiencies already noted for the 50 state standards. No state followed that design.

In January 2005, the conservative Thomas B. Fordham Foundation issued letter grades for all the published sets of state

standards in mathematics and English. The Fordham people established criteria by which they judged the various state standards. They looked at qualities such as clarity, content, reason, teachability, and consistency.

“Scathing” would be the best description of this critique (Finn, 2005). The average grade for math was a D, with C being the average grade for English standards. All standards must be critically examined to determine their validity and developmental appropriateness before applying them to student work. State education agency personnel should make reliability estimates available. That is currently not the case.

### **Corrupting the Public School Culture**

Lying close to the center of the standards movement is the assumption that the values of big business should be incorporated into the culture of the schools. (U.S. Court of Appeals, (2008).

Nationally, Achieve, Inc. is a business advocacy group aimed at “reforming” the nation’s schools. This corporate group in 2001 was co-chaired by Louis V. Gerstner, Jr., Chairman and CEO, IBM Corporation. Its goals are almost identical to “The Partnership for Learning.” However, Achieve, Inc. also has six state governors along with six corporate CEO’s on its Board of Directors (*Achieve Policy Brief, #1, 2000*). The “Inc.” portion of the name is intriguing in that the business model is implied for education. And, there was not one schoolteacher on that national board. For an elaboration review see Emery and Ohanion’s *Why Is Corporate America Bashing Our Public Schools?*

In Washington state, the link to corporatizing education is made plain by a group called Partnership for Learning, comprised of over 50 corporate sponsors, with

a mission to build greater understanding and involvement of the business community in the statewide effort to raise academic standards in schools.

The Partnership has a budget of over \$600,000 per year (including grant support from the Stuart Foundation of San Francisco) and fully endorsed using tests to determine student achievement. In published materials, the partnership shows a bias supporting the coercion of students to take state-mandated high-stakes tests.

Partnership publications include reports of the TIMSS-R studies in which they avoid disaggregating data to show American schools to be behind international schools. They neglect to note that nearly all other countries in the world segregate their children at about age 11 or 12 into 2 closed educational tracks—university bound and trade or industry bound. Note that tracking has been declared illegal in this country in *Hosbon v. Hansen* (1967) and the Circuit Court in 1969 in *Smuck v. Hansen* (1969) did not overturn the case.

On September 9, 2003, President George W. Bush announced a partnership between the U.S. Department of Education and the Broad Foundation. They collaborated to disseminate high-stakes test scores, the high “performing” districts compared various other data. The Broad Foundation received a federal handout (discretionary grant) from the USDOE for \$4.7 million (GAO, 2006).

### **Moral and Ethical Issues**

If states are legalizing educational standards that young kids can't master, then adults are committing an immoral act against the next generation. There is a moral dimension to schooling. (Goodlad, 2006).

Is it moral to use the police powers of the state to coerce all children to attempt to learn something that has little chance of being mastered? A substantial percentage of youngsters in grades 1-6 do not have the cerebral connections at these stages of their young lives to think and operate at the higher cognitive levels. Give these youngsters two or three more years to develop and the majority will begin to think analytically. Growth and maturation processes, coupled with positive school learning experiences, help children to evolve cognitively (Epstein, 2002).

How responsible is it to watch children and teachers spending between 8 and 20 days to prepare for and administer a state's high-stakes test that is based on developmentally inappropriate standards?

Approximately one in five students exhibit some form of behavioral, educational, emotional or physical disability (Fuchs & Reklis, 1992). The arena of disabilities and non-English speaking children has all but been ignored by the “standardistos” (Susan Ohanian, 1999). Much more could be offered here, but simply note “that, for the record,” the immorality of national standards as required by NCLB has been raised here.

An ethical issue addresses the hopeless feelings of parents who try to tutor their children night after night so their children can meet some arbitrary standard. On November 28, 2005, the National Council of Churches (NCC) issued a statement. They declared the NCLB and its attendant demands immoral. The report stated, “As people of faith we do not view our children as products to be tested and managed, but instead as unique human beings to be nurtured and educated” (p. 2). The report also stated that the “Christian faith demands

justice and compassion” (p. 1). The NCC issued ten “moral concerns” about the NCLB Act and standards movement. (Note: The 6th Circuit U.S. Court of Appeals (1/7/2008) has declared part of NCLB unconstitutional; education is a state function.)

Other implications that must be addressed to stop this travesty against youth:

- What political agenda is being served by knowingly prescribing standards that clearly are not in reach of school children?
- Why are the state legislatures continuing to expend (waste) tax dollars on a USDOE reform system that predictably is showing adverse effects on children and may be unconstitutional? (U.S. Court of Appeals)
- Are the civil rights of all children being violated? Where is due process in the standards movement?

Education professionals must speak against this perversion of excellence. The school kids can't vote, but will surely fight back—and may do so by dropping out.

### **Other Views Relating to State Standards**

Several published studies have attempted to evaluate various sets of state standards. As early as 2001, S. S. Gottlieb published a review of state standards for education. He noted that the American Federation of Teachers (AFT) had examined 28 sets of reading and language arts standards and concluded that they were all unsatisfactory!

The Fordham Foundation personnel issued three critical reports in 2005:

- (1) the State of State English Standards (2005) by Sandra Stotsky and C. E. Finn, Jr.;
- (2) the State of State Math Standards (2005) by David Klein and nine co-authors;
- (3) and, the State of State Science Standards (2005) by Paul Gross and five others.

The various state standards were rated on an “A” to “F” scale.

The national average was a “C,” with Washington, Wyoming, Connecticut and Montana an “F” for their English Standards. Major deficiencies were lack of meaningful content and the cognitive demands were “illusory” (p. 13) meaning the genre was rather narrow in scope. The final deficiency was that the standards were “unteachable” (p. 14).

The writers of the Fordham Foundation reported on math standards gave the nation an average grade of “D.” The states of Delaware, Florida and Washington (among 11 states) all got grades of “F.” The writers concluded that: “Too many states fail to develop important prerequisites before introducing advanced topics such as calculus. This degrades mathematics standards into what might be termed ‘math appreciation’” (pp. 4-5).

Nearly half the states’ standards received grades of “D” or “F” for statewide science standards. Among the criteria were such points as standards being fair, organized

sensibly, logical grade-to-grade progression, appropriate to grade level and do they incorporate fads or politics.

### **Enter The Education Recovery Act**

On March 7, 2009 “The American Recovery and Reinvestment Act of 2009: Saving and Creating Jobs and Reforming Education” (ARRA) was initiated. The act attempts to put workers back on jobs and also allocated \$100 billion for education related projects. The U. S. Secretary of Education, Arne Duncan, designated \$5 billion for competitive grants to states and school districts. Of the total, \$4.35 billion was earmarked for “The Race to the Top” (RTTT) fund to improve education quality and results nationwide.

As with any federal program there are evaluation criteria that must be met. Under, the RTTT Secretary Duncan mandated 19 “Absolute Criteria” under five general categories that must be met by every state or school district that applies for funding:

- (1) Standards and Assessments,
- (2) Data Systems to Support Instruction,
- (3) Great Teachers and Leaders,
- (4) Turning Around Struggling School, and
- (5) Overall Criteria.

Endnote: All state standards are listed on the Internet. Just inset the state name followed by “State Educational Standards” and they appear in full text. Also visit [www.corestandards.org](http://www.corestandards.org) for The Common Core State Standards Initiative, a joint effort by the National Governors Association Center for Best Practices and the Council of Chief State School Officers in partnership with Achieve, Inc., ACT, and the College Board.

### **Author Biography**

Donald Orlich is a co-author of *Teaching Strategies: A Guide to Effective Instruction* (9<sup>th</sup> Ed.). He has published extensively, received numerous awards, and is currently co-principal investigator with R. C. Zollars of “Summer at WSU—Engineering Experiences for Teachers (SWEET)” for the National Science Foundation. E-mail: [dorlich@wsu.edu](mailto:dorlich@wsu.edu)

Several years ago, the U. S. Supreme Court established parameters for federal spending; among that list: “Financial inducements of federal spending programs must not be coercive” (Ryan, 2004). Of critical importance, the RTTT require even higher-stakes tests for students, very costly accountability systems, and the implementation of charter schools where none exist.

The money is not focused on helping classroom teachers do a better job. No, the RTTT is a further attempt to privatize the public schools with the public funding. The ARRA appears to be a direct attack on the U. S. Tenth Amendment—state’s rights.

### **Conclusion**

The standards movement put the cart before the horse. In no state was a needs assessment conducted to determine what aspects of school required “fixing.” I suggest that administrators examine the comprehensive treatment by John Hattie (2009) to identify what aspects of student achievement are supported empirically. Hattie offers a detailed list of what works in classrooms.

And, in conclusion: National Standards—*Caveat Emptor*.

## References

- Achieve, Inc. (2000). *Achieve Policy Brief*. 1(1), 1-8.
- American Association for the Advancement of Science and National Science Teachers Association. (2001). *Atlas of Science Literacy*. Washington, DC. Author.
- Amrein, A. L. & Berliner, D. C. (2002, March 28). High-Stakes Testing, Uncertainty and Student Learning. *Educational Policy Analysis Archives* 10(18), 1-56. Retrieved April 1, 2002 from <http://epasa.asu.edu/epaa/v10n18>.
- Bergeson, T., C. Mayo, L., Fitton, R. & Bylsma, P. (2000, September). *Study of Grade 4 Mathematics Assessment in Washington State, Final Report*. Olympia, WA: State Superintendent of Public Instruction.
- Buber, M. (1970). *I and Thou*. New York: Charles Scribner's Sons, translated by W. Kaufman.
- Bush, G. W. (2003, September 9). News Release. Jacksonville, FL. Broad Foundation Partnership with U.S.D. of E. Retrieved at [www.whitehouse.gov](http://www.whitehouse.gov).
- Emery, K. & Ohanion, S. (2004). *Why is Corporate America Bashing our Public Schools?* Portsmouth, NH: Heinemann.
- Epstein, H. T. (2002). "Biopsychological Aspects of Memory and Education". In S. P. Shohov (Ed). *Advances in Psychology Research*, vol. 11, New York: Nova, 181-186.
- Fuchs, V. R. & Reklis, D. M.. (1992, January). America's Children: Economic Perspectives and Policy Options. *Science* 255: (January, 3) pp. 41-46.
- Glass, G. V. & Edholm, C. A. (2002). The AIMS Test and the Mathematics Actually Used by Arizona Employers. Education Policy Studies Laboratory, Arizona State University, Tempe, Education Policy Research Unit. EPSL-0209-119 EPRU, October. Retrieved January 12, 2003 at <http://edpolicylab.org>.
- Goodlad, J. I. (2006). *What Schools Are For*. Bloomington, IN: Phi Delta Kappa International.
- Gottlieb, S. S. (2001, August). *A Review of State Reading and Language Arts Standards*. ERIC Digest. Bloomington, IN: ERIC Clearinghouse on Reading, English, and Communication. ED 456 425.
- Gross, P. et al. (2005, December 7). *The State of State Science Standards 2005*. Washington, DC: The Thomas B. Fordham Foundation.



- Hattie, J. C. (2009), *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*. London & New York: Routledge.
- Klein, D. and 8 others, (2005). *The State of State Math Standards 2005*. Washington, DC: The Thomas B. Fordham Foundation
- Kozol, J. (2005). *The Shame of the Nation: The Restoration of Apartheid Schooling in America*. New York: Crown Publishers, a Division of Random House.
- National Council of Churches. (2005, November 28). NCC: No Child Left Behind is Leaving Too Many Children Behind. Retrieved at: <http://www.cccusa.org/news/051130NoChildBehind.html>
- Ohanian, S. (1999). *One Size Fits All: The Folly of Educational Standards*. Portsmouth, NH: Heinemann.
- Ryan, J. E. (2004). The Tenth Amendment and Other Paper tigers: The Legal Boundaries of Educational Governance. In N. Epstein, Ed. *Who's In Charge Here? The Tangled Web of School Governance and Policy*. Denver: Education Commission of the States, (42-74).
- “Science: Essential Academic Learning requirements.” Olympia, WA. Office of Superintendent of Public Instruction. 2004.
- Stotsky, S. & C. E. Finn, Jr. (2005). *The State of State English Standards 2005*. Washington, DC: Thomas B. Fordham Foundation.
- U. S. Court of Appeals for the Sixth Circuit (Decided and Filed: January 7, 2008). Pontiac School District et al., v. Secretary of the United States Dep’t of Educ.
- U. S. Department of Education. *Strategic Plan: 2002-2007*. Washington, DC.
- U. S. Government Accountability Office. (2006, February). *Discretionary Grants*. Washington, DC: GAO-06-268, Appendix II, Table 2, p. 26. Retrieve at: <http://www.gao.gov/new.items/do6268.pdf>
- U. S. District Court, Washington, D.C. Hobson v. Hansen (269 F. Supp. 401 [1967] Circuit Court, Smuck v. Hobson 408 F. 2d [1969] refused to remand the decision.

## Commentary

# Singapore's Educational Reforms: The Case for Un-Standardizing Curriculum and Reducing Testing

Sophia HueyShan Tan, PhD  
Associate Professor  
Coastal Carolina University  
Conway, SC

## Abstract

Is there validity to the claim that national standardized curriculum and testing will bring about the necessary education reform in the United States? To answer this question, the author has looked at and learned from Singapore, a country that has traditionally excelled and outperformed U.S. students in the international comparative studies. This commentary seeks to address the notion that if we could set high nation-wide standards, it will improve the quality of education that students get, close the achievement gap, and make the U.S. a more competitive player in the 21<sup>st</sup> century. Through examining the past and present educational reforms in Singapore, this commentary will expose the hidden costs associated with obtaining and sustaining high academic achievement in standardized curriculum and assessment.

## Keywords

National Standards, Assessment, Singapore

## Introduction

One phenomenon with competing in the 21<sup>st</sup> century globalized economy has led government, education and economic leaders to become concerned with improving the workforce in America. This is exacerbated by discouraging results in the ranking of the U.S. on international comparative studies of academic achievement, such as Trends In Mathematics and Science Study (TIMSS) and

Program for International Student Assessment (PISA). These studies, as many point out, indicate the failure of the U.S. educators, one well-known problem being achievement gaps. U.S. President Obama (2009) said in an address to Congress in early 2009, "This is a prescription for economic decline, because we know the countries that out-teach us today will out-compete us tomorrow."

The latest statistics from the “Nation’s Report Card,” the National Assessment of Education Progress (NAEP), show that the No Child Left Behind Act (NCLB) has not narrowed achievement gaps, which have stayed about the same since 1970 (Dillan, 2009). Meanwhile, data from SAT scores (Marklein, 2009) suggest that since NCLB was officially signed in 2002, achievement gaps in the United

States have widened. The data in Table 1 show the most recent SAT scores of the different ethnic groups and how they have changed over the last ten years. Some groups have remained unchanged, whereas other groups have increased significantly. These reflect SAT scores before NCLB, and 7 years after NCLB was passed as cited in USA Today on August 26, 2009.

Table 1

*Gains in SAT Scores for Different Ethnic Groups in the Last 10 Years*

	1999	2009	+/-
Asian	1058	1103	+45
White	1055	1064	+9
Latino	927	916	-11
Black	856	855	-1

The No Child Left Behind Act was passed in part to raise the standards of education and to close achievement gaps in the U.S. through greater accountability. This led to the implementation of state curriculum standards and assessments, which manifested obvious flaws in the last few years without evident results. Since individual states specify their own curricula, they could set the bar lower for their schools, which is the opposite of what the NCLB goal was—to raise standards.

To correct this, there are now (2009) ideas on standardizing curriculum at the national level. Proponents of national standards often make the argument that if we set high nation-wide standards, surely, it will improve the quality of education that students get, close the achievement gap, and make the U.S. a more competitive player in the 21<sup>st</sup> century.

Is there validity to the claim that national standardized curriculum and testing will bring about the necessary education reform in the United States? To answer this question, the author reviewed and learned from education policy in a country that has traditionally excelled and outperformed U.S. students on international academic comparative studies.

### **Singapore Case: Educational Reform**

Singapore has long been recognized internationally as a nation whose tested students have excelled on international comparative studies of academic achievement (Barber & Mourshed, 2007). Singapore math outcomes have gained recognition around the world, and “Singapore Math” is currently (2010) adopted by different school districts in states such as California, Illinois, New Jersey, and Massachusetts. Since its independence in 1965, Singapore’s students have been able to

achieve impressive educational feats. Singapore's students have improved the tested literacy rate from 68.9% in one language in 1970 to 92.5% in 2000 (Yamashita, 2002). Some have attributed the accomplishments to a tradition of a very well defined national curriculum in language.

With such an excellent academic reputation, Singapore must surely be content with its education system, academic outcomes, and workforce. If so, why has the government been aggressively pushing education reform?

As the United States is moving toward centralization, standardization, and nationalized curricula, Singapore has implemented an educational reform of moving away from a centralized approach toward decentralizing its education system and giving greater autonomy to school leaders.

Schools are now moved toward "independence," and can also be "autonomous," as well as "government aided," signaling various degrees of autonomy. By 2006 Singapore leaders had moved away from emphasis on standardized testing through their "Teach Less, Learn More" vision, and preparing students for life, rather than teaching more for tests and examinations. Most recently (2009) in an effort to promote the "Teach, Learn More" vision, primary 1 students no longer need to take semestral examinations, and primary 2 students will be slowly "eased into it."

The Ministry of Education described their effort on [www.moe.gov.sg](http://www.moe.gov.sg):

*It is about shifting the focus from "quantity" to "quality" in education. "More quality" in terms of classroom interaction, opportunities for expression, the learning of life-long*

*skills and the building of character through innovative and effective teaching approaches and strategies. "Less quantity" in terms of rote learning, repetitive tests, and following prescribed answers and set formulae.*

In 1997, the policy makers in Singapore promulgated the "thinking schools, learning nation" vision. After a visit to the U.K. and the U.S., the then prime minister of Singapore, inspired by the United States, a paragon of individuality and creativity, stated in a speech (Goh, 1997):

*Their best schools produced well-rounded, innovative students by putting them through a diverse and challenging curriculum. Their academic institution and research laboratories are at the forefront of ideas and scientific breakthroughs, infused with entrepreneurial spirit. And they have developed strong links between academia and industry, society and government. We in Singapore should learn from these strengths of the American system.*

During 2004, the Ministry further fine tuned the "thinking schools, learning nation" vision to "Innovation and enterprise" and in the new focus, Singapore leaders are pushing "Innovation and Enterprise," which they defined as:

*... an attitude of mind, developing habits of mind. At the core of it, innovation and enterprise is firstly, about developing intellectual curiosity amongst all our children, a willingness to think originally. Second: a spirit of initiative, and a willingness to do something differently, even if there is a risk of failure ...*

Why would a nation with academic excellence decide on such a drastic shift in education policy? Did years of sustaining high academic outcomes nationally and at the top of international comparative studies accumulate associated costs, some of which are exceedingly high and perhaps irretrievable?

### **Costs of National Standardized Curriculum and Testing**

Whether Singapore will succeed in its present (2010) education reform remains to be seen. However, the price of high academic performance can be staggering (Belfield & Levin, 2002). The author examines the price of obtaining and sustaining high academic achievement in standardized curriculum and assessment and should give pause to leaders in the United States about rushing to pursue national standards and national testing.

### **Creativity**

The government leaders in Singapore “are united in lamenting the apparent lack of creativity and thinking skills among students and members of the workforce.” (Tan & Gopinatham, 2000), and have noted Singaporeans’ general “inability to perform without clearly defined goals” (Gross 1999). With the up and coming nations around Singapore, such as China and India, Singapore businesses can no longer remain competitive in a mechanical and manufacturing economy. Reproduction of goods and services are available in other countries at a fraction of the cost it takes to make the same goods in Singapore.

Policy makers recognize that in order for them to thrive in the future, they would have to create and innovate. In the face of fierce international competition, Tharman (2004) said that they had to learn to create new opportunities, which will be crucial to Singapore’s survival. In a speech on the impact of globalization, Tharman, the then Minister of

Education said, “... the societies that come out ahead will be those that look forward, and look for ways of creating opportunities, new opportunities, for their populations...”

The new Singapore education reform focuses much on creativity, in which thinking skills were taught under the “thinking program”, and no grades were given. However, critics have suggested that the exam-oriented culture in Singapore is too prevalent to ignore the likelihood that thinking skills may eventually be assessed through standardized tests, and students are prepared for these tests through drilling (Tan, 2006). From this perspective, many Singaporeans seem to believe that the perfunctory implementation of a new subject to the national curriculum will not precipitate a cultural change, even if the subject was “Creativity.”

Howard Gardner (2008) said at an oral presentation that creativity could be prevented by “saying that there is only one right answer and by punishing the student if she or he offers the wrong answer. That never fosters creativity.” Tharman also acknowledged this in a 2004 speech, and stated that Innovation and Enterprise will not happen unless Singapore’s current culture changes:

*But this may go against the general culture of wanting ‘orderliness’ within the classroom, where students take copious notes from the teacher or get copies of prescribed answers to memorize for the examinations. This is unlikely to groom a generation of young Singaporeans who can think on the move and seize opportunities.*

Needless to say, it is challenging to move away from the prevalent and institutionalized culture of standardization, to more freedom of expression, creativity, and innovation. “Creativity cannot be taught, but it can be killed” (Zhao, 2006, p. 30). Creativity is

now part of the national curriculum in Singapore, implemented with the same rigidity already in place, with limits on curricula time, and boundaries on topics.

### Critical Thinking

Singaporeans are uncomfortable with “questioning assumptions”, and are “more conforming than independent. They are not curious about most things” (Tharman, 2004). Only about a third of science teachers teach problem solving regularly, as they are more concerned about covering the science syllabus (Lee, Tan, Goh, Chia, & Chin, 2000). Teachers in Singapore focus on drilling and getting their students to pass their exams (Ho & Lin, 2004). If this trend of testing continues, “it is doubtful that thinking schools – where there is a culture of searching and learning inside and outside of schools, can be created” (Tan, 2006, p. 93).

The nature of a standardized curriculum and testing program necessitates a follower’s mentality, rather than a leader’s. It does not serve students well to question authority, question assumptions, or to discover alternatives to solutions. The result of standardized testing is that people will learn that it will best serve their self-interest by observing the national curriculum, and just doing what they are told. In other words, it is likely that a standardized curriculum produces “standardized workers.”

### Diversity

One of the transformations in Singapore’s education policy is “flexibility and diversity” (Ministry of Education, 2009). The government recognizes what has long been its citizen’s complaint about the education system – the lack of diversity and flexibility. When students’ advancement and schools’ reputations depend on their academic achievement on standardized tests, schools’ resources are

usually directed at the tested content, leaving little time for exploration of diverse interests. It is much more efficient for everyone to get on the same bandwagon, learn the same things, in the same ways, and in the same amount of time, than to cater to individual needs, interests, and abilities.

When many resources are spent on getting students ready for national standardized testing, and there is little or no time for exploration of anything outside the national curriculum, it sends a signal to students and parents that the tested curriculum is more important than the untested. The result is more uniformity, and less diversity. For example, despite years of effort to promote arts and culture in Singapore, it is still largely lifeless and uninspired. Few people appreciate arts and design; perhaps they are not part of the national curriculum.

### Mediocrity

Singapore does not produce Picassos, or Fumihiko Maki’s, who, though born in Asia, studied Architecture in the United States. These are outstanding people in their fields – the top 1% of people in their fields, whose contributions are world renowned and legendary. It is unlikely for a country to produce outstanding people in the area of arts and humanities, which they have had to deemphasize in their curriculum in order to make time for other subjects.

What about producing excellent mathematicians and scientists – the areas in which Singapore has been focusing on intensely and have proudly outperformed other countries. The list of Fields Medals shows t(outstanding mathematicians below 40) has only been awarded to one person from Japan, which is considered to be one of the countries whose students consistently top international

standardized tests in Mathematics. This man, Shigefume Mori, also happens to have spent a significant amount of time in the United States. Comparatively, there are 11 American mathematicians who have won the medal.

With all the tested academic brilliance in Singapore, one would think that the top earning people in Singapore are Singaporeans, and that the top positions and “talents” come from the local pool.

On the contrary, the Singapore government has recognized Singapore’s lack of talents, and has implemented the “foreign talent program”, which aggressively recruits “foreign talents” mostly from the west, who take up the top executive positions in various professional arenas in Singapore (Yao, 2007, p. 145). Much to the dismay of locals with equivalent credentials, the government leaders seem to believe that “... Singaporeans have to sharpen their entrepreneurial skills by learning from expatriate professionals” (Yao, 2007, p. 147) who are paid higher salaries in positions similar to those held by Singapore natives.

### Equity

A major strength in the Singapore education system is the equitable amount of funding and high quality resources that get allocated to every public school, despite geographic region, or academic performance. One could argue that this may be a primary reason that educators have been able to narrow the achievement gap rapidly since the 1970’s (Quentin, 2003).

However, imposing the same set of standards across the board is not the same as providing equal opportunity. When a school's reputation or survival is based on standardized testing, the educators will likely aim most of its resources at students who are just below the baseline because they are the ones who will have the most influence on the school's statistics at the end of the day. That is, they are most likely to increase the percent of passes or any other point of reference, such as the percent of A’s.

The group of students at the bottom will likely get fewer resources because the students are deemed to have little influence on the overall statistics of the school. Similarly, the group at the top who are already way above the baseline will have fewer resources directed at them because they will not influence the statistics too much either. In this case, it looks like the educators and students in the school are doing well statistically, but the gap remains the same.

The 2007 TIMSS testing results showed that Singapore has a consistently wider gap (90<sup>th</sup>-10<sup>th</sup> percentile) than America in both the 4<sup>th</sup> grade and the 8<sup>th</sup> grade results, and in both Math and Science. The largest gap seems to be in 8<sup>th</sup> grade science, which is 273 points between the 10<sup>th</sup> percentile and the 90<sup>th</sup> percentile in Singapore, while the gap is only 213 in the U.S.

See Table 2.

Table 2

*2007 TIMSS Results for 4<sup>th</sup> and 8<sup>th</sup> Math and Science at the 10<sup>th</sup> and 90<sup>th</sup> Percentile*

		4th Grade			8th Grade			
	Country	90 <sup>th</sup> percentile	10 <sup>th</sup> percentile	90th-10 <sup>th</sup> percentile	Country	90 <sup>th</sup> percentile	10 <sup>th</sup> percentile	90th-10 <sup>th</sup> percentile
Math	Singapore	702	487	215	Singapore	706	463	243
	United States	625	430	195	United States	607	408	199
Science	Singapore	701	464	237	Singapore	694	421	273
	United States	643	427	216	United States	623	410	213

## Conclusion

Considering the price for standardized curriculum and testing, the United States might be better served by preserving the creative elements that its education system and students seem to bring about. The Singapore examples show the erroneous notion that excellent academic achievement on standardized tests will make the U.S. a significant player in today's global economy. Despite a world renowned reputation, Singapore has set itself on the arduous course of education reform to

reduce national standardization and testing, and to reverse the adverse effect the present standardization seems to have had on Singaporeans' ability to be creative, innovative, and to think critically. While standardization may have brought about enormous and quick results to the academic achievements in Singapore in the last three decades, national standardized curricula and testing are not a "one size fits all" solution for every country, and will certainly not propel every country into being a key player in the 21<sup>st</sup> Century economy.

## Author Biography

Sophia Tan is an associate professor of instructional technology at Coastal Carolina University. Her research interests are mostly related to the social aspects of online learning and the impact of technological innovations in the classroom. E-mail: Stan@costal.edu



## References

- Barber, M. & Mourshed, M. (2007). How the world's best-performing school systems come out on top. *McKinsey and Company*. Available: [http://www.mckinsey.com/App\\_Media/Reports/SSO/Worlds\\_School\\_Systems\\_Final.pdf](http://www.mckinsey.com/App_Media/Reports/SSO/Worlds_School_Systems_Final.pdf) Accessed on Dec 6th 2009.
- Belfield, C. R. & Levin, H. M. (2002). The effects of competition between schools on educational outcomes: A review for the United States. *Review of Educational Research*, 72(2), 279-341.
- Dillan, S. (2009, April). 'No Child' Law Is Not Closing a Racial Gap. *New York Times*. Available: <http://www.nytimes.com/2009/04/29/education/29scores.html> Accessed on Oct 14, 2009.
- Gardner, H. (2008). *Five Minds for the Future*. Oral presentation at the Ecolint Meeting in Geneva, January 13.
- Goh, C. T. (1997). *Shaping Our Future: Thinking schools, Learning Nation*. Singapore Government Press Release. Speech by Mr. Goh Chok Tong, the then prime minister of Singapore at the opening of the 7<sup>th</sup> International Conference on Thinking at the Suntec City Convention Center Ballroom.
- Gross, A. (1999). *Human Resource Issues in Singapore Spring*. Pacific Bridge, Inc. Singapore.
- Ho, A. L. & Lin, L. (2004, December). *Students here enjoy learning maths, science*. The Straits Times.
- Lee, K., Tan, L., Goh, N., Chia, L., & Chin, C. (2000). Science teachers and problem solving in Elementary schools in Singapore. *Research in Science & Technological Education*, 18(1).
- Marklein, M. B. (2009, August). SAT scores show disparities by race, gender, family income. *USA Today*. Available: [http://www.usatoday.com/news/education/2009-08-25-SAT-scores\\_N.htm](http://www.usatoday.com/news/education/2009-08-25-SAT-scores_N.htm) Accessed on Oct 13, 2009.
- Obama, B. (2009, February). Remarks of President Barack Obama – As Prepared for Delivery. Address to Joint Session of Congress.
- Quentin, D. L. (2003). *The Bilingual Education Policy in Singapore: Implications for Second Language Acquisition*. Paper presented at the Annual International Symposium on Bilingualism (4<sup>th</sup>, Tempe, AZ, April 30-May 3).
- Tan, C. (2006, March). Creating thinking schools through “knowledge and Inquiry”: the curriculum challenges for Singapore. *The Curriculum Journal*, 17(1), 89-105.

Tan, J. & Gopinathan, S. (2000, Summer). Reform in Singapore: Toward greater creativity and innovation? *NIRA Review*, 7(3).

Tharman, S. (2004, February). Innovation and enterprise in our schools. Singapore Government Press Release. Speech by Mr Tharman Shanmugaratnam, Acting Minister for Education at the Innovation and Enterprise Workshop at the Anglo Chinese School, Singapore.

Yamashita, M. (2003). Singapore Education Sector Analysis: Improvement and Challenges in Academic Performance of Four Ethnic Groups in Singapore. Paper presented at the *Annual Meeting of the Comparative and International Education Society*, Orlando, FL.

Yao, S. (2007). *Singapore: The state and culture of excess*. Routledge: New York.

Zhao, Y. (2006). Are we fixing the wrong things? *Educational Leadership*. 63(8), 28-31.

## Mission and Scope, Upcoming Themes, Author Guidelines & Publication Timeline

The *AASA Journal of Scholarship and Practice* is a refereed, blind-reviewed, quarterly journal with a focus on research and best practices that advance the profession of education administration.

### Mission and Scope

The **mission** of the *AASA Journal of Scholarship and Practice* is to provide peer-reviewed, user-friendly, and methodologically sound research that practicing school and district administrators can use to take action and that higher education faculty can use to prepare future school and district administrators. The Journal publishes accepted manuscripts in the following categories: (1) Evidence-based Best Practice, (2) Original Research, (3) Research-informed Commentary, and (4) Book Reviews.

The **scope** for submissions focuses on the intersection of five factors of school and district administration: (a) administrators, (b) teachers, (c) students, (d) subject matter, and (e) settings. The Journal encourages submissions that focus on the intersection of factors a-e. The Journal discourages submissions that focus only on personal reflections and opinions.

### Upcoming Themes

Below are the themes for the next three issues:

- Navigating Fiscal Crisis with a Focus on Student Achievement
- Dropout Prevention
- Teacher Evaluation
- Principal Evaluation
- Appropriate Use of Results from Statewide Assessment
- Influence of Leadership Actions on Teacher Retention
- Role of Central Office Personnel Actions in Improving Student Achievement

### Submissions

**Length of manuscripts** should be as follows: Research and best-practice articles between 1,200 and 1,800 words; commentaries, book and media reviews between 400 and 600 words. Articles, commentaries, book and media reviews, citations and references are to follow the *Publication Manual of the American Psychological Association*, latest edition. Permission to use previously copyrighted materials is the responsibility of the author, not the *AASA Journal of Scholarship and Practice*.

Potential contributors should include a cover sheet that contains (a) the title of the article, (b) contributor's name, (c) academic rank, (d) terminal degree, (e) department and affiliation (for inclusion on the title page and in the author note), (f) address, (g) telephone and fax numbers, and (h) e-mail address. Also please provide on the cover page a 40-word biographical sketch. The contributor must indicate whether the submission is to be considered original research, evidence-based best-practice article, commentary, or book or media review. The type of submission must be indicated on the cover sheet in order to be considered. Articles are to be submitted to the editor by e-mail as an electronic attachment in Microsoft Word 2003.

### Book Review Guidelines

Book review guidelines should adhere to the author guidelines as found above. The format of the book review is to include the following:

- Full title of book
- Author
- City, state: publisher, year; page; price
- Name and affiliation of reviewer
- Contact information for reviewer: address, country, zip or postal code, e-mail address, telephone and fax
- Date of submission

### Additional Information and Publication Timeline

Contributors will be notified of editorial board decisions within eight weeks of receipt of papers at the editorial office. Articles to be returned must be accompanied by a postage-paid, self-addressed envelope.

The *AASA Journal of Scholarship and Practice* reserves the right to make minor editorial changes without seeking approval from contributors.

Materials published in the *AASA Journal of Scholarship and Practice* do not constitute endorsement of the content or conclusions presented.

Articles and book reviews are to be submitted to the editor by e-mail as an electronic attachment in Microsoft Word 2003.

The **publication schedule** follows:

Issue	Deadline to submit articles	Notification to authors of editorial review board decisions	To AASA for formatting, editing	Available on AASA website
Spring	October 1	January 1	February 15	April 1
Summer	February 1	April 1	May 15	July 1
Fall	May 1	July 1	August 15	October 1
Winter	August 1	October 1	November 15	January 15

**Submit to:**

Christopher H. Tienken, EdD  
Assistant Professor  
College of Education and Human Services  
Department of Education Leadership, Management, and Policy  
Seton Hall University  
Jubilee Hall Room 405  
400 South Orange Avenue  
South Orange, NJ 07079  
973.275.2874  
E-mail: christopher.tienken@shu.edu

## AASA Resources

AASA offers a number of resources reserved exclusively for members. **Join AASA** at [www.aasa.org/Join.aspx](http://www.aasa.org/Join.aspx). AASA has a new District Bundle or Easy Pass that includes membership and all AASA conferences and publications in one easy purchase. See details or contact Art Zito at [azito@aasa.org](mailto:azito@aasa.org).

By joining the **AASA Professional Library** members gain access to cutting-edge books at a significant discount before being offered to the general public. The AASA Professional Library is an annual subscription series of educational leadership books written by specialists, veteran administrators, acclaimed professors and skilled practitioners. Join by March 5, 2010, to receive *Smarter Clicking: School Technology Policies That Work!*, by Christopher Wells. This book will be shipped to you on April 1, 2010. Visit [www.aasa.org/library.aspx](http://www.aasa.org/library.aspx).

Also, learn more about **AASA's new books program** where new titles and special discounts are available to AASA members. The AASA publications catalog may be downloaded at [www.aasa.org/books.aspx](http://www.aasa.org/books.aspx).

### Upcoming Conferences and Workshops from AASA

Be the best your students deserve! Attend these conferences to improve your skills and build your network.

- ✓ **Summer Leadership Institute, Washington, D.C., July 27-Aug. 1, 2010**  
Focus on innovation, change and school system leadership \* Technology panels  
Invited speakers:  
Chris Trimble, author *Ten Rules for Strategic Innovators*  
Jay Mathews, author, education reporter, columnist, *The Washington Post*  
Julie Mathiesen, director, Technology & Innovation in Education (TIE)
- ✓ **Legislative Advocacy Conference, Washington, D.C., Sept. 22-24, 2010**  
Day 1: Accountability/Assessment  
Day 2: Advocacy on the Hill  
Day 3: Educating the Total Child
- ✓ **Women in School Leadership Forum, Ritz-Carlton Pentagon City, Va., Nov. 11-14, 2010**  
Develop your skills \* Understand the "land mines" \* Learn negotiating strategies  
Network with other women leaders \* Discuss issues in a private, closed forum
- ✓ **National Conference on Education, Denver, Colo., Feb. 17-19, 2011**  
Learn how to use federal stimulus money  
Gain practical solutions to pressing challenges  
Tracks for principals, aspiring leaders or cabinet

### NEW! AASA Online

Bring AASA programs and resources to your district without leaving your office! Visit <http://online.aasa.org> today.