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## Six Reasons Why School Systems Don't Educate All Students at High Levels

Imagine that you are the superintendent of schools in a highly respected school district. Your K–12 school district is well funded, has great teachers, and has strong community support. The vast majority of students perform extremely well on all state and national examinations. However, there are still significant achievement gaps within your school system.

Why do these achievement gaps continue to exist, even in well-funded school districts? Why can't these K–12 school districts close the achievement gap?

There are three potential responses:

1. It's not possible for all students to achieve at high levels;
2. Our work has not been successful, so we just need to keep adding more achievement gap initiatives; or
3. The K–12 organization, as designed, has reached the limits of its capacity and needs to be changed to ensure more students achieve at high levels.

### **It's Not Possible for All Students to Achieve at High Levels**

We know the first hypothesis is not true for individual schools. In the book *It's Being Done: Academic Success in Unexpected Schools*, Karin Chenoweth describes 15 individual schools in the United States that closed or nearly closed achievement gaps between poor children and children of color with white and Asian children (2007, p. 11). In each chapter of her book, she describes the demographics of the rural, suburban, and city schools she studied and what each school did to reach proficiency rates into the 80% or 90% range or to demonstrate “sustained and rapid improvement over multiple years” (p. 11). In addition, the Education Trust lists on its web site 25 schools where more than 50% of its students are poor and performed in the top 25% in the state. These achievement gap success stories were selected as part of a program called *Dispelling the Myth* (“Success stories,” 2012).

### **Our Work Has Not Been Successful, So We Just Need to Keep Adding More Achievement Gap Initiatives**

During at least the last two decades, school districts all across the United States have tried initiative after initiative to close the achievement gap for students. A Google search on the term *achievement gap* showed 1,600,000 results on July 11, 2011. A review of the first 900 articles reveals a wide range of achievement gap initiatives tried by different schools. None of the articles claimed that entire K–12 school districts were able to close the achievement gaps for students of color and white students. When the Google search was narrowed to *African American achievement gap*, there were 846,000 results on July 10, 2011. When the search was narrowed to *Hispanic achievement gap* on the same date, there were 896,000 results.

In 2008, a study was conducted by Vito LaMura, the retired president of the Lexington, Massachusetts teachers' association, who verified significant racial achievement gaps in eight relatively wealthy, high-performing school districts in the Boston area (LaMura, 2007). For more than 10 years, the eight school districts implemented a wide range of initiatives to raise academic achievement for their students of color as part of a 43-year voluntary integration program known as METCO. In 1966, the Massachusetts legislature established the Metropolitan Council for Educational Opportunity (METCO) to expand educational opportunities, increase diversity, and reduce racial isolation, by permitting students in Boston and Springfield to attend public schools in other communities that have agreed to participate.

Given that these school districts were engaged in significant efforts to close the achievement gap for more than a decade, why did their achievement gaps persist? We do not believe it was from a lack of initiatives.

Some of the area superintendents have suggested the following potential reasons for failure: the focus was on the wrong drivers of change, the change process was not systemic K through 12, and there was lack of deep implementation with fidelity.

### **The Organization, as Designed, Has Reached the Limits of Its Capacity and Needs to Be Changed to Ensure More Students Achieve at High Levels**

In this book, we will explore why the vast majority of schools in the United States have not been able to get “all students across the finish line” (that is, to have all students demonstrating proficiency in the core curriculum). While we acknowledge that there are some incompetently run school systems, we believe that most school systems provide the best education that they are designed to produce. Teachers and administrators come to work every day and do the best job they know how to do. However, we believe that most school systems, as they are currently designed, have reached the limits of their capacity.

Before diving into this problem, the following analogy may help explain our point of view more clearly.

Why can't a six-year-old boy run a four-minute mile? There are two problems. First, even with a huge breakfast (more energy), his biological system cannot convert the food energy into usable energy fast enough. Second, even if his metabolic system could generate enough energy per second, his body is not designed to produce enough mechanical energy for his legs to run fast enough. Therefore, even if this child ate just the right foods every day and exercised every day, he could never run a four-minute mile.

We argue that current school systems were never designed to ensure all students achieve at high levels. Built into the design is a structure that does not allow sufficient resources and focus to produce high educational achievement for all students. For more than 200 years, American schools were designed to educate only some students. Beginning in the 1960s, the courts and legislatures began to insist that schools must educate everyone. Only recently in our country's history are we striving to educate all students at high levels.

Before presenting our ideas to improve learning for all students within a K–12 school system, we will begin our story with a brief history of American schools. This story partially explains why the current structures of school systems limit our ability to teach all students at high levels. While our forefathers designed and created schools that met the needs of some Americans, years ago schools were not designed to educate all Americans. The history of how American schools were organized provides

clues as to why even the highest-performing American schools today cannot close the achievement gap.

In this chapter, we identify six historical factors, excluding financial limitations, which have limited the capacity of school systems to educate all students at high levels. Each of the limitations will be discussed from a historical perspective. The six limitations are

1. Laws and regulations: Schools are designed for some students, not all students
2. Mindsets and limiting beliefs about learning
3. Standardization versus differentiation
4. Teacher isolation versus teacher collaboration, leadership, and engagement
5. A narrow view of professional development
6. Teaching and student learning as separate acts, not as an interactive process

School leaders must understand the major systemic, organizational, and cultural limitations on a school's capacity to educate all students at high levels before these limitations can be overcome. The remainder of this book describes how to break the limitations of the past and increase the capacity of educators to overcome obstacles, teach all students at high levels, and diffuse innovations and best practices throughout both individual schools and school systems.

## **LIMITATION ONE: LAWS AND REGULATIONS**

### *Schools Are Designed for Some Students, Not All Students*

Education as we know it in America today exists within a complex network of federal and state laws and regulations. These laws, enacted and amended over the years, reflect the values and social policy of the people who held power at the time those laws were created and amended, in the jurisdictions in which those laws have effect. These laws and regulations created rights and benefits for some and limitations, obstacles, and barriers for others.

Over the last 200 years, not only have laws, institutions, and legal frameworks changed, but the role of government in education has changed significantly. At the time of the American Revolution, education was the responsibility of local cities and towns. Over the years, states gradually took more and more responsibility for educating children, using tax

revenue to finance education and placing licensure requirements upon teachers. In the 1950s through the 1970s, the federal government took on new roles and responsibilities in the education of children, removing some legal barriers to education access for certain groups and setting education policy for the coming years.

At the time of the American Revolution, our forefathers did not envision a nation that needed to or should educate all people. Education was a privilege for children whose parents could afford to pay for their education, and mostly for boys. In this section, we briefly summarize 200 years of history that shows that public schools in the United States were not designed to educate all students at high levels. Until very recently in our history, most Americans believed that only some students should be educated at high levels.

In the late 1700s, Thomas Jefferson embraced the vision that all white male and female children be educated by the state. He proclaimed, "If a nation expects to be ignorant and free, it expects what never was and never will be." Jefferson believed that the "common man" could elect wise leaders if the populace was educated.

To further his vision, in 1778 Jefferson asked the Virginia legislature to approve his Bill for the More General Diffusion of Knowledge. Although his bill never successfully passed the legislature, Jefferson proposed that the state establish elementary schools with a curriculum that taught

reading, writing, and common arithmetick, and the books which shall be used therein for instructing the children to read shall be such as will at the same time make them acquainted with Graecian, Roman, English, and American history. (cited in Dorn, 2012)

The bill, had it passed, would have entitled these children to three years of education paid for entirely by the state, and three more years at private expense. By "all the free children," Jefferson meant whites only.

In 1789, Massachusetts was the first state to use tax revenue to finance public education, though only for white children and only in some towns. Even as the state financing of public education grew, most schools remained racially segregated. In the 1800s, southern states began to pass laws outlawing the education of blacks. For example, in 1831 the Virginia legislature passed a law making it illegal to educate blacks.

Be it further enacted, That if any white person assembles with free negroes or mulattos, at any school-house, church, meeting-house, or other place for the purpose of instructing such free negroes or mulattoes to read or write, such person or persons shall, on conviction thereof, be fined a sum not exceeding fifty dollars, and moreover may be imprisoned at the discretion of a jury, not exceeding two months. Be it further enacted, That if any white person, for pay or

compensation, shall assemble with any slaves for the purpose of teaching, and shall teach any slave to read or write, such person, or any white person or persons contracting with such teacher so to act, who shall offend as aforesaid, shall, for each offence, be fined at the discretion of a jury, in a sum not less than ten, not exceeding one hundred dollars. (“Legal Status,” 1871)

Following Thomas Jefferson’s vision to educate the “common man,” Horace Mann of Massachusetts became the first state Secretary of Education in the country in 1837. He espoused state education for all children, and his views were very controversial. He was fiercely antislavery, against corporal punishment, and believed that schools must be nonsectarian. Mann believed that

universal education would be the “great equalizer” of human conditions, the “balance wheel of social machinery,” and the “creator of wealth undreamed of.” Poverty would most assuredly disappear as a broadening popular intelligence tapped new treasures of natural and material wealth. Along with poverty would go the rancorous discord between the “haves” and the “have nots” which had characterized all human history. Crime would decline sharply, as would a host of moral vices like intemperance, cupidity, licentiousness, violence and fraud. The ravages of ill health would certainly abate. In sum, there was no end to the social good which might be derived from a common school. (Cremin, 1957, pp. 8–9)

Horace Mann was unusual for his time and for decades after his death. As late as 1912, for example, Edward Thorndike, who was elected president of the American Psychological Association and was one of the most influential educators in the early 20th century, challenged the progressive notion that schools should educate everyone. Thorndike, a proponent of Social Darwinism said, “Even to-day such an ideal for the education of the three quarters of a million children in New York City’s schools seems a little absurd” (Thorndike, 1914, p. 33). He believed that “it would be wasteful of time to train Jews and Negroes identically” (p. 32).

The issue of which races had the right to attend schools was fiercely debated in the State of California in the 1880s and 1890s. On April 7, 1880, the Legislature repealed the California Political Code, Sections 1669, 1670, and 1671, enacted in 1869–1870, which had mandated separate schools for white children and for African American and Indian children, except where the school trustees “fail to provide” such separate schools. However, in 1885, permission to establish racially segregated schools was restored; the Legislature passed an amendment to Political Code 1662 stating that students of Mongolian, Chinese, and Japanese descent were prohibited

from attending public schools with white children, once a separate school for these children had been created. The law was silent on African American children.<sup>1</sup> In 1893, the legislature further segregated education by race when it adopted an amendment adding Indian children to the list of students who must be excluded from public schools for white children once separate schools had been established. The only exception was for four-year-old kindergarten children. (“California segregation laws,” 2004).

By 1918, all states had established public schools, most of which were segregated by race and gender. Black children in primary schools received a substantially inferior education to white children. Many southern states did not have public high schools for black students; black teacher’s colleges took the place of secondary schools for a select few. According to Prof. Ronald L. F. Davis of California State University at Northridge,

Many of the black colleges and normal schools serving African Americans were hardly colleges at all. Because no public high schools for black children existed in most of the southern states, the typical black teachers’ college included curricula at the secondary level. As late as 1915, no public high schools for blacks existed in Mississippi, South Carolina, North Carolina, or Louisiana. Only one each existed in Florida, Delaware, and Maryland. Atlanta had none before the 1920s. Almost all southern blacks receiving a high school education prior to 1910 had graduated from private, usually church sponsored, schools.

Those primary schools that did exist in the Jim Crow South offered substandard curricula, often in dilapidated and falling down shacks. Educator Booker T. Washington described them as “wretched little hovels with no light or warmth or comfort of any kind.” Black teachers’ salaries fell far below those paid white teachers, and many of the teachers were educated just at the primary level, especially in the rural areas. (Davis, n.d.)

By 1940, the quality of schools for African American children severely lagged the quality of schools for whites. According to researchers Tyack and Cuban, schools for African Americans “only received 12 percent of the revenues” as compared with schools for whites. The authors state that “Half of black teachers had gone no further than high school as compared with 7 percent of white teachers” and schools often lacked even the “most basic aids to learning—textbooks, slates and chalk, or desks” (Tyack &

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<sup>1</sup>The California Supreme Court ruled in *Wysinger v. Crookshank*, 82 Cal. 588, January 29, 1890, that under California Political Code 1669, amended in 1880, African American children could not lawfully be excluded from white schools. Arthur Wysinger became the first African American student to be admitted to Visalia’s high school.

Cuban, 1995, p. 23). In the South, school systems were designed to be a caste system that legally assigned African American children to unequal schools.

Prior to 1954, under the United States Constitution, it was legal to segregate African American children within the public schools. In 1954, the U.S. Supreme Court in *Brown v. Topeka Board of Education* ruled that “separate but equal schools” were unconstitutional. In 1955, in *Brown II*, the U.S. Supreme Court ordered that desegregation occur with “all deliberate speed.” However, ten years after the 1954 *Brown* decision by the U.S. Supreme Court, “more than 99.5% of black students in the South, excluding Texas and Tennessee, still attend[ed] all-black schools” (Balkin & Rodriguez, n.d.).

By the 1960s and 1970s, there was finally a majority in the U.S. Congress to pass major laws that would significantly expand the civil rights for all citizens. During that time period, three laws were enacted that specifically expanded the rights of students, based on the belief that all students should be entitled to attend school without discrimination due to race, color, religion, national origin, or handicap. The three laws were:

- The Civil Rights Act (1964), which prohibited discrimination on the basis of race, color, sex, religion, or national origin. Title IV of the law (Desegregation of the Public Schools) authorized the government to sue on behalf of parents or students who were unable to bring suit for discrimination. In 1974, the Supreme Court in *Lau v. Nichols* interpreted “national origin” discrimination to include educational discrimination against English language learners, and required schools to provide educational programs to teach English to immigrant children. (*Lau v. Nichols*, 1974).

- Title IX (1972), which banned sex discrimination in schools that received federal funds. This new law radically changed women’s sports, which previously received far fewer funds than men’s sports. The new law required schools and colleges, which received federal funds, to offer equal opportunities based on sex.

- The Education for All Handicapped Children Act (1975), now known as the Individuals with Disabilities Act (IDEA), which assured that all children with disabilities had available to them a free and appropriate public education, and which emphasized special education and related services designed to meet their unique needs.

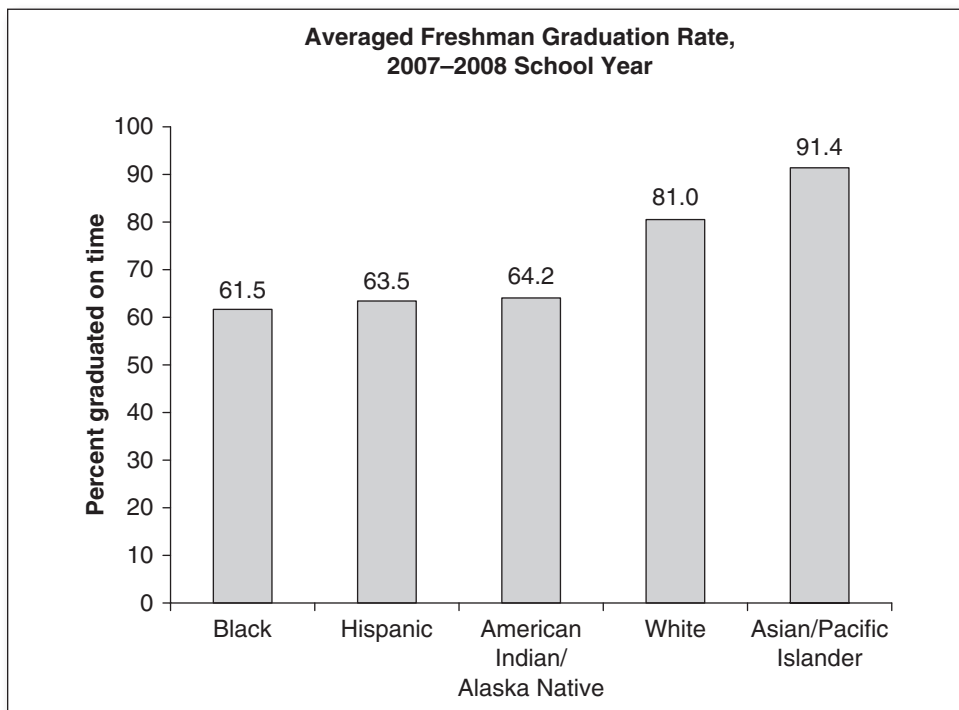
It is well known that IDEA now ensures free and appropriate education to all children with special needs. What is often not known is that the law was a civil rights response for two groups of children: more than one million children with disabilities who had limited access to free and appropriate education within the public schools, and one million other children with disabilities who were excluded entirely from the public education system (U. S. Office of Special Education Programs, 2007).



These three laws significantly expanded the rights of women, minorities, and the disabled to receive an education. However, even with the passage of laws that opened the doors for many students, significant achievement gaps persisted, and still exist today for special education students, low-income students, and for many racial minorities:

Although more than three-quarters of white and Asian students in the United States earn diplomas, high school outcomes are much worse for others. Among Latinos, 56 percent successfully finish high school, while 54 percent of African-Americans and 51 percent of Native Americans graduate. (Swanson, 2010)

One way to measure this achievement gap for low-income and minority students is by measuring high school graduation rates. The following chart breaks down high school graduation rates by race. As of the 2007–2008 school year, Black, Hispanic, and American Indian/Alaska Native children lag behind white and Asian children in high school graduation rates.



Source: Stillwell, R. (2010). *Public School Graduates and Dropouts From the Common Core of Data: School Year 2007–08* (NCES 2010-341). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010341>.

Over the last 200 years, as the states and the federal government have played an increased role in education, many minority students have still been left behind. Legal obstacles are only some of the many barriers to education access; other factors, such as where children live, poverty, parental education level, and the beliefs that teachers and policymakers hold, also affect a child's access to a quality education. While changing laws is often a long and difficult process, community and educator beliefs may be even harder to change than the laws, and may persist even when the laws have been changed. Racial prejudice, wrote Chief Justice Lemuel Shaw in *Roberts v. The City of Boston* in 1850, "is not created by law, and probably cannot be changed by law" (Massachusetts Foundation for the Humanities, 2005, May 17). At least, it cannot be changed by law alone.

## LIMITATION TWO: CHANGING MINDSETS AND LIMITING BELIEFS ABOUT LEARNING

While legislatures can repeal and courts can strike down laws that discriminate against some citizens, legislatures and courts cannot change what citizens believe and how all people behave. Despite the 1954 Supreme Court's ruling in *Brown v. Topeka Board of Education*, few school districts desegregated voluntarily. For example, in 1957, Arkansas Governor Orval Faubus posted members of the National Guard at Central High School in Little Rock to prevent the court-ordered admission of black students. When President Eisenhower intervened to enforce desegregation, Governor Faubus eventually closed all four high schools in Little Rock. In 1959, the Prince Edward County, Virginia, school system chose to close all of its public schools rather than desegregate them. And in 1963, at his inauguration as Governor of Alabama, George Wallace proclaimed, "In the name of the greatest people that have ever trod this earth, I draw the line in the dust and toss the gauntlet before the feet of tyranny . . . and I say . . . Segregation now! Segregation tomorrow! Segregation forever!" (Balkin & Rodriguez, n.d.).

Even today, after the passage of many state and federal civil rights laws, many urban schools in the United States are still racially segregated. While legislation and court rulings are necessary, they are insufficient to entirely change mindsets, beliefs, and private behavior. In this section, we will discuss how an educator's values and beliefs can also have a powerful impact on a child's access to quality education.

While the civil rights laws of the 1960s and 1970s are admirable and necessary, and are enforceable by law, the government cannot change a teacher's beliefs about a child's ability to learn and the teacher's learning expectations. Therefore, unless schools are also able to create a school

climate that expects all teachers to teach all students at high levels and create conditions for teachers to believe that high achievement for all students is possible, more laws and regulations won't be sufficient. A teacher's low expectations for students, based on a belief that certain students cannot learn, or learn as well, has a similar adverse impact on disadvantaged students as actual school rules and laws that separate students by socioeconomic class, gender, or race.

From our observations, the response of teachers to unsuccessful learning in their students often flows from the teacher's views on intelligence. Too often, teachers attribute student failure to a lack of "natural" ability, or they blame failure on the lack of parental support. In contrast, educators who hold more liberating views about intelligence, or Carol Dweck's "growth mindset," will seek out different pedagogical approaches.

In a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work—brains and talent are just the starting point. This view creates a love of learning and a resilience that is essential for great accomplishment. Virtually all great people have had these qualities. (Dweck, 2011)

A powerful example of how beliefs can affect achievement is found in the changes that have taken place over the past four decades in women's sports. Watching the 2008 U.S. women's basketball team win the gold medal in Beijing brought back memories of when Americans used to believe that women could not play sports as well as men. Prior to the Title IX rule changes that were implemented in 1972, a women's basketball team consisted of six players, not five. Players were only allowed to dribble twice before passing and only certain players, called rovers, were allowed to cross the half court line and run the full length of the court.

Why did these different rules for female athletes exist? Why were our beliefs limited in regard to athletics and women's capacities? Anyone old enough to remember watching women play this diluted game of basketball might also remember that these rules reinforced prevailing beliefs about women's inability to be athletic and competitive. With Title IX and a shift in cultural norms, the prevailing assumptions about women athletes began to change. Title IX forced schools to provide women with access to a much wider range of athletic opportunities, skillful coaching with high expectations, and improved practice conditions. Changes in the law and a change in beliefs have both made it possible for more women athletes to perform at much higher levels.

What beliefs might be limiting the development of students today? Could we possibly see, for example, a change in mathematics achievement

if we explored and changed our perceptions about who can do math? There seems to be a belief that when it comes to mathematics, “some people have it, while others don’t.” Would our schools, our curricula, and our grouping patterns look different if we believed that the overwhelming majority of our students have the capacity to think mathematically?

We have listed below a set of limiting beliefs that exist in many schools today and contrast them to more liberating assumptions that have the potential of affecting how students achieve (adapted from Saphier & D’Auria, 1993).

### LIMITING BELIEFS ABOUT INTELLIGENCE

- Intelligence is fixed. Only the few bright children can achieve at a high level.
- Speed is what counts. Faster is smarter.
- Inborn intelligence is the determinant of success.
- Mistakes are a sign of weakness.
- Smart students work independently.

### LIBERATING BELIEFS ABOUT INTELLIGENCE

- Intelligence is malleable. All children are capable of high achievement, not just the fastest and most confident.
- It’s OK not to understand everything the first time around.
- Consistent effort is the main determinant of success.
- Mistakes help one learn.
- Smart students seek out assistance, resources, and alternative pathways.

In this section, we discussed the role that beliefs and mindsets, both conscious and subconscious, play in creating barriers to education at high levels for all students. The beliefs of educators about who is entitled to an education and who is capable of learning at high levels have a real impact on the outcome for students. In the next section, we will explore how school leaders in the early 20th century believed that schools must be highly standardized in order to be efficient and cost effective. Their goal was to ensure that only some students were educated at high levels.

This third limitation, overly standardized schools, is still a major obstacle limiting a school or a school district's capacity to educate all students at high levels.

### **LIMITATION THREE: STANDARDIZATION VERSUS DIFFERENTIATION**

In 2008, Harvard Business School Professor Clayton Christensen and his coauthors harshly criticized the level of standardization in American schools. They wrote,

In summary, the current educational system—the way it trains teachers, the way it groups students, the way the curriculum is designed, and the way school buildings are laid out—is designed for standardization. If the United States is serious about leaving no child behind, it cannot teach its students with standardized methods. Today's system was designed at a time when standardization was seen as a virtue. It is an intricately interdependent system. Only an administrator suffering from virulent masochism would attempt to teach each student in the way his or her brain is wired to learn within this monolithic batch system. Schools need a new system. (Christensen, Horn, & Johnson, 2008, pp. 37–38)

Standardization in American schools has its roots in our educational history. A brief examination of the history of standardization in American schools will elucidate how belief in scientific management and the application of the “factory model” to education led to the creation of schools that were not designed for all students. In this section, we examine the fundamental belief systems that led to standardization, the origins of these beliefs, their impact on student performance, and the limitations the standardization model has placed on teacher collaboration.

America's schools were never designed to educate all students at high levels. Around the time of the American Revolution, cities and towns began establishing one-room schoolhouses as the institutional means to foster democracy and a moral society. From 1770 to 1890, one-room schoolhouses were the prevailing model of American education. Individual teachers were hired by local boards of selectmen to teach elementary students the academic basics. In 1890, only 5% of students graduated from high school.

By the late 1800s, curriculum was standardized through reliance on textbooks. These textbooks served as a “crutch” for teachers who had little knowledge and expertise in the areas they were expected to teach. As late

as 1918, “more than half of America’s elementary-school teachers had two or less years of academic and professional training beyond high school. In this context, textbooks functioned as undeniable crutches” (Clifford, 1978, p. 158) to support teachers and standardize education. This reliance on textbooks to guide instruction still exists today in many classrooms. For example, as late as 2005, 20 U.S. states still decided at the state board level which textbooks could be used by local school districts (Zinth, 2005). Since these states included Texas, Florida, and California, three of the largest states in the country, textbook publishers have little choice but to follow the curriculum standards mandated by these large states, effectively standardizing textbooks for all states.

By the early 1900s, economic circumstances and significant increases in immigration made it necessary to educate large numbers of students. Standardization increased as the predominant education model shifted from one-room schoolhouses to multiunit schools. In these new multiunit schools, the number of pupils per classroom was based not on the needs of students, but on fixed student-to-teacher ratios. The student day was organized not around how much time each student needed to learn the curriculum, but on a fixed number of minutes per class. Students were taught by age group, regardless of their proficiency in the curriculum. This multiunit school was based on the “factory” model, and these schools were actually run like factories: ringing bells, specialized subjects, and children taught in batches (age group or “date of manufacture”). This standardized, factory-based, multiunit school model was designed to run efficiently and sort students—it was never designed or intended to help all students achieve at high levels.

Additionally, teacher collaboration did not increase with the move from one-room schoolhouses to multiunit schools. According to professor emeritus Dan Lortie at the University of Chicago, “Teachers’ work . . . was not radically altered by the development of the multi-unit school. . . . Schools were organized around teacher separation rather than teacher interdependence” (Lortie, 2002, p. 14). In the multiunit school, teachers still functioned independently of one another in their instruction; in some ways, these new schools effectively functioned as one-room schoolhouses under one roof.

The famous educator Edward Thorndike, also the former president of the American Psychological Association, believed that “creating a better, more predictable world” was the goal of education. Thorndike “strived to develop a science of learning so that brick by brick a science of education could be built” (Eisner, 1983, p. 6). Thorndike’s “better and more predictable world” guided by a science of education, was not, however, the world we strive for today, in which all children have equal

access to education. Thorndike's "science" of education was framed by his explicit racial and ethnic bias, and by white supremacy and the principles of Social Darwinism. He did not believe that Jewish and African American children had the same capacity to learn as Anglo-American white children, and in 1912, he stated that it would be "wasteful" to educate them (p. 41).

Thorndike advocated that teachers control and test children, since a child was an "empty organism" whom teachers had to fill (Getzels, 1978, p. 489). Teachers controlled students in classrooms, with the teacher in the front of the classroom and students sitting in chairs bolted to the floor facing the teacher. Students did not collaborate. Testing was a large part of Thorndike's repertoire (Clifford, 1978, p. 114).

In these schools, not only were the students highly controlled, so were the teachers. Elliot Eisner, former Professor of Education at Stanford, wrote that the role of teachers in 1910 was highly regulated. He said that "Teachers were regarded as workers to be supervised by specialists who made sure that goals were being attained, that teachers were performing as prescribed, and that the public who paid for the schools were getting their money's worth . . . The task was to get teachers to follow one best method, a method that scientific management of education would prescribe" (Eisner, 1983, p. 7). Scientific management has been defined as "the administration of a business or industry based on experimental studies of efficiency; the application of the principles of the scientific method to managing a business or industry" ("Scientific management," 2012).

According to Lortie, even in the 1920s and 1930s, "[School officials] saw teachers as similar to factory hands—as agents charged with implementing detailed specifications developed in central headquarters" (Lortie, p. 5). By 1925, "Thirty-four state departments of education managed to 'standardize' more than 40,000 schools" (Tyack & Cuban, 1995, p. 20). During this time period, school officials continued to import "scientific management" from business, since they believed that scientific management was the best way to achieve educational efficiency in schools.

In 1959, James Conant, former president of Harvard University, further standardized education by introducing the use of standardized aptitude tests for undergraduate admission. He also proposed that graduating classes have at least 100 students in order to be effective, and that the day would have seven or eight periods of approximately 45 minutes each (Conant, 1959, pp. 64–65).

The next major historical stage in the standardization of schools came from new federal court decisions and laws. Until *Brown v. Board of Education* in 1954, the federal government had almost no role in education. States were largely responsible for setting educational policy, funding schools,

establishing curriculum standards, and licensing teachers. In 1979, Congress created the U.S. Department of Education. In 2001, Congress passed a change to the Elementary and Secondary Education Act, commonly known as No Child Left Behind (NCLB). NCLB was the first national law that mandated educational standards for all 50 states, annual testing of students, and accountability standards. NCLB included enforcement provisions under which schools would be sanctioned for not making annual yearly progress toward rigid, objectively defined academic standards.

At the state level, laws were enacted to protect workers' rights, ensure quality teaching, and improve educational quality. Such laws granted workers in numerous states the right to collectively bargain for contracts, increased licensure requirements for teachers, mandated teaching evaluation processes and standards, and mandated the curriculum that must be taught in schools.

Although in the 1950s and 1960s there was an increased move towards greater equality in education, the belief systems that underlie the fundamental structure of schooling did not change. According to Jeannie Oakes, an expert on educational equity at the University of California (Los Angeles), the most remarkable thing about the mid-20th century was not the move toward greater educational equality, but the intransigence of the essential structural properties of schooling even in the face of social and legal reform (Oakes, 1986). Although new funding was provided to a wide array of initiatives aimed at closing the achievement gap for poor and minority students, such as Head Start and Title I, this

generous funding was given to programs that did not upset (a) the control of education, (b) the content or organization of schooling, (c) the pattern or distribution of educational resources, or (d) eventual social or economic payoff for differing educational credentials. For most people in decision-making positions, the only acceptable means of "equalizing" educational opportunities was to allocate additional resources to overcome deficits—to change individual students rather than to change the conduct of schooling or to examine its underlying assumptions. (p. 67)

According to Oakes, by the 1980s, approximately 30 years after *Brown v. Topeka Board of Education*, differentiated schooling and tracking had not changed in the vast majority of schools, and the role of these structures in perpetuating the achievement gap between middle-class white students and poor and minority students remained unquestioned and unchallenged; any gaps that existed were still justified in terms of individual and



cultural differences. Although laws and funding formulas had changed, the myth persisted that American schools provided an equal, democratic opportunity to all.

While Oakes wrote this article in the 1980s, the situation remains largely the same today. Though some of the rationales for standardization have changed since they were first introduced, the basic structure of schools has not, and the tendency to rationalize away the achievement gaps through individuals and cultural difference—the belief that some children simply cannot learn—remains in effect today as strongly as ever.

Though Social Darwinism is no longer the philosophy of prominent educational leaders (such as Thorndike), this model is still widely used today, and when poor and minority children fail, the contribution of the system itself to that failure is rarely challenged. According to Oakes, “The failure of disadvantaged children (especially if they have received ‘remediative’ or ‘compensatory’ services) becomes a matter of their own deficiencies—social, economic, educational or linguistic—and not of the schools’ inadequate response to them.” (p. 72)

More standardization, with higher stakes, must be the answer, according to proponents of NCLB. The problem lies not with the structure of schools, but with the lack of rigid standards and “one-size-fits-all” curricula, and measurement of student achievement by standardized tests. But this “standardization” of education is not culturally neutral, and students tracked into different groups still receive a different quality of education; as Oakes puts it, “There is no presumption that high status knowledge is appropriate for all.” (p. 74)

As early as 1920, “test-score based student segregation and academic tracking” dominated the Detroit Public Schools (Levin, 1991, p. 73). Today, standardized tests have become even more common, and are used to track students in a wide variety of ways, beginning in grade school. These standardized tests act to “commodify” education, measuring “worker productivity” as in the factory, quantifying learning, and acting as “quality controls” on the educational system. Again we hear echoes of scientific management. According to Oakes, “a disturbing result is that quantitative determinations of quality have a disproportionately negative effect on poor and minority children” (p. 74).

African American children, for example, are disproportionately tracked into special education based in part on local and state standardized tests. A 1998 study by the U.S. Department of Education found that “black students were nearly three times as likely as white students to be labeled mentally retarded” (Losen & Orfield, 2002, pp. 22–23). The overrepresentation of African American and Hispanic students in special education was further

verified by Mathew Deninger, policy analyst for the Massachusetts Department of Elementary and Secondary Education, who said,

African American students were approximately 1.3 times (approximately 30 percent) more likely than non-African American students to be found eligible for special education. Similarly, Hispanic students were 1.2 times (approximately 21 percent) more likely than non-Hispanic students to be found eligible for special education. (2008, p. 4)

Recently, there has been a growing backlash against rigid standardization and an increasing belief that we are overregulating and overstandardizing schools. There is also recognition that raising standards without increasing the funding to meet these standards will not be successful. For example, while the National Education Association (NEA) supports the goals of NCLB, the NEA has been a staunch critic of the law, “maintaining that it is an unfunded mandate with unattainable student-achievement goals” (Hoff, 2007). Recently, Carmel Martin, the Assistant Secretary for Planning, Evaluation, and Policy Development at the U.S. Department of Education, stated,

Under current law, it’s a one-size-fits-all intervention that we don’t think [is] moving the dime for these students. We think that by allowing states and districts greater flexibility in figuring how to tackle areas of weakness, they’re going to have a better shot at overcoming challenges for students in historically overlooked subgroups. (Klein, 2011)

The deep historical roots of standardization influence our current way of doing business in school. While we need to maintain and expand access to a quality education for all students, we are not going to be able to achieve it with a one-size-fits-all model. Many scholars and ordinary citizens today are speaking out against the overstandardization of schools by states and the federal government. For example, Ronald Wolk, former editor of *Education Week*, said,

Standardization and uniformity may work with cars and computers, but it doesn’t work with humans. Today’s student body is the most diverse in history. An education system that treats all students alike denies that reality. (2009, p. 30)

The issue is not whether standards are necessary. Schools without standards are unacceptable. Society should indeed hold high expectations for all students, but those expectations should reflect

the values of the family and society—doing one's best, obeying the rules, and mutual respect—and not simply the archaic academic demands of college-admissions offices. We should be preparing young people for life, not just for college. (p. 36)

In the next section, we will discuss the fourth limitation to highly effective schools for all learners—teacher isolation, a product of overstandardization that significantly limits the capacity of teachers to learn from colleagues and to collectively improve learning for all students.

## LIMITATION FOUR: TEACHER ISOLATION VERSUS TEACHER COLLABORATION, LEADERSHIP, AND ENGAGEMENT

Throughout the history of U.S. schools, the vast majority of teachers have spent their workday isolated from their colleagues. In a study by Robert Rothberg, 80% of teachers agreed with a description of their classroom as “a private world which no one besides you and your students entered” (1986, p. 320). Kenneth Tye reported that “teachers tend to be isolated in their own classrooms, in control of what goes on there, and satisfied with the situation as it is” (Tye, 1981, p. 52). Only in the past few years have school systems begun to break down the walls of teacher isolation by establishing common planning time for teachers who share the same work. One such example of teacher collaboration is the professional learning communities.

When teachers are able to collaborate with one another, share leadership, and engage with each other, the collective capacity to improve learning for all students is increased. In the paragraphs that follow, we explore the historical roots that contributed to teacher isolation in schools.

As already discussed, until the early 1900s, most teachers in America taught in one-room schoolhouses. In such settings, teachers were the only instructors and could not collaborate with other educators on lessons and curriculum design. The rapid increase in school enrollments and construction of multiunit schools in the early 1900s did little to reduce teacher isolation. According to Professor Dan C. Lortie, “Teachers’ work, in short, was not radically altered by the development of the multi-unit school. . . . As before, the teacher continued to work largely alone” (Lortie, p. 14).

Lortie identifies isolation as a product of institutional characteristics firmly grounded in the historical development of schools: namely, the

growth of the multiunit school from the one-room schoolhouse and high teacher turnover rates due in part to the ban on married female schoolteachers (p. 14). Although the ban on married female schoolteachers was lifted in the 1940s, the patterns of teacher isolation that Lortie describes in his book, *Schoolteacher*, nonetheless remain largely true today.

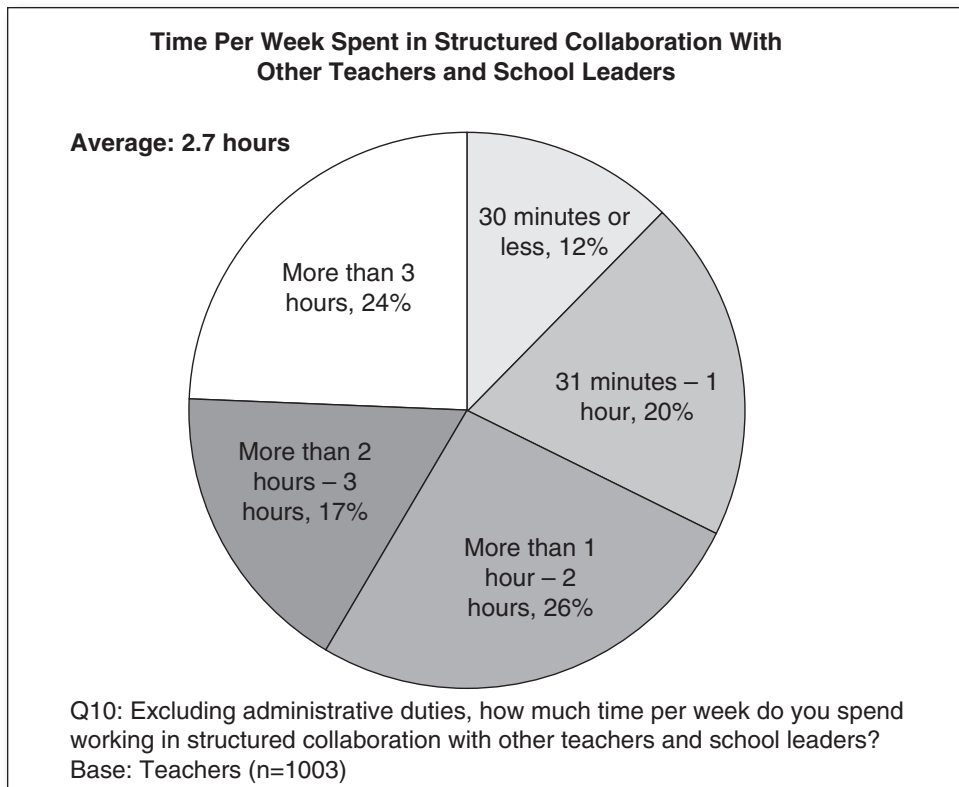
Lortie describes the “egg-crate” architecture of school buildings and school cultures that together physically separate teachers from each other by classroom and also professionally separate them by grade and by subject. Schools, Lortie argues, were organized based on teacher independence rather than teacher interdependence. Even today, teachers are assigned a group of students for the whole day in elementary schools and for a class period in the upper grades; and they spend most of their day teaching those students within their four walls, with little time to interact with other teachers.

Lortie also describes how in the past very high rates of teacher turnover made it impossible for teachers to work interdependently in any sustainable way. Teachers had restricted opportunities for feedback from colleagues, rarely had opportunities to visit other teachers’ classrooms, and were evaluated by supervisors only a few times per year (Lortie, pp. 69–73). Even though some of the causes for high teacher turnover are different today than they were in the first half of the twentieth century, high rates of teacher turnover in some school systems continue to be an obstacle to creating a culture of teacher interdependence and collaboration.

In the early 1980s, teacher isolation was further documented in a study of 1,350 elementary and secondary school teachers. Educational researcher John Goodlad found that isolation is a widespread characteristic of professional life in schools. He wrote, “Approximately three quarters of our [teacher] samples at all levels of schooling indicated that they would like to observe other teachers at work” (Goodlad, 1983, p. 188). In a 2009 study titled *The American Teacher*, 67% of teachers and 78% of principals reported that greater collaboration among teachers and school leaders would have a major impact on improving student achievement (MetLife, 2009, p. 9).

Unfortunately, the culture of most schools makes it difficult for young teachers to crack the walls of privatism (Hargreaves & Fullan, 1992, p. 292). According to the 2009 MetLife study, teachers spend only 2.7 hours per week, on average, in structured collaboration with other teachers and leaders (MetLife, 2009, p. 15). Isolated teachers have very little time outside their classrooms to collaborate with other teachers to mutually develop curriculum and common lessons and to share effective practices.

Studies of effective schools show that in them teachers are far less likely to work in isolation. One such study conducted by Susan J. Rosenholtz found that these schools, rather than being isolated work settings, “are usually



Source: Metlife, 2009.

places of intellectual sharing, collaborative planning, and collegial work” (Rosenholtz, 1985, p. 365). Researcher Judith Warren Little also found that successful schools are distinguished by norms of collegiality among staff. In a research study involving six urban desegregated schools, she wrote

In successful schools, more than unsuccessful ones, teachers valued and participated in norms of collegiality and continuous improvement (experimentation); they pursued a greater range of professional interactions with fellow teachers or administrators, including talk about instruction, structured observation, and shared planning or preparation. They did so with greater frequency, with a greater precise shared language. (1982, p. 325)

In the next section, we describe the impact of inadequate teacher and administrator professional development on student learning. Following that, we discuss the gap that often exists between teaching and student learning, and how, when these activities are independent, a teacher’s capacity to teach all students effectively is much more limited.

## LIMITATION FIVE: A NARROW VIEW OF PROFESSIONAL DEVELOPMENT

While we are confident that the vast majority of school districts hire the very best teachers available, we are also confident that educators need high-quality professional development<sup>2</sup> for the remainder of their careers. Unfortunately, the majority of teachers in the United States do not engage in professional development that is likely to improve teaching practice (Steiner, 2004, p. 1). In this section, we examine how a school district's narrow view of professional development limits teacher capacity to provide high quality teaching and learning.

Professional development is a relatively new concept in American education. In 1970, the National Staff Development Council (NSDC) was formed at a conference in Racine, Wisconsin. There were only 17 people in attendance. It wasn't until 1980 that the NSDC formed as a legal entity and issued its first semiannual *Journal of Staff Development*.

During most of the 20th century, school districts offered very little professional development. According to Lortie, professional development "tended to be measured in days, and even hours, rather than weeks or months. . . . Provisions for additional training within school systems [were] sparse" (1975, p. 60). A 2000 study conducted for the National Center for Education Statistics found that teachers spent about a day or less in professional development on any one content area per year (National Center for Education Statistics, 2000, p. 70).

In schools today, the two most common forms of professional development are short-term in-service days that are designed to teach specific ideas, techniques, or materials; and university-based courses that focus on content and not application (Steiner, 2004, p. 3). Unfortunately, research shows that these two approaches do not lead to substantive and lasting changes in teaching that has a significant effect on student learning (Cohen & Hill, 2001; Parsad, Lewis, & Farris, 2001; Porter et al., 2000). In a study of mathematics and science teachers, M. S. Garet, who was a chief research scientist for the American Institutes for Research, and others studied 1,027 teachers to determine what makes professional development effective (Garet et al., 2001). His research team found that short-term workshops outside the school day had little impact on teaching (p. 920).

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<sup>2</sup>Learning Forward defines professional development as "a comprehensive, sustained, and intensive approach to improving teachers' and principals' effectiveness in raising student achievement" (Retrieved from <http://www.learningforward.org/standfor/definition.cfm#DefinitionRources>).

Professional development has been shown to be more effective when provided over a sustained period of time and when there is time for teachers to discuss and reflect on what they have learned. A 1999 study by the U.S. Department of Education found that when teachers report their professional development activities extended over a longer period of time, they cite improvements in teaching practice (Steiner, 2004, p. 3).

A 2005 study conducted by the Australian government examined the links between teacher professional development and student learning outcomes. The study concluded that student learning increases when professional development has a “strong content focus, as well as an emphasis on other features such as follow-up, active learning, feedback and professional community” (Meiers & Ingvarson, 2005, p. 84).

These studies strongly suggest that in order for a school system to more effectively implement professional development, it must shift from short-term professional development programs to longer-term programs and from university-based courses selected by individual teachers to district-sponsored programs selected by both teachers and administrators. Shifting to longer-term professional development programs provides teachers with deeper learning experiences and more time to apply their new knowledge. To make this change requires lengthening professional development programs from the commonly used one-day workshop to programs that are “presented in an intensive, sustained, and continuous manner over time” (Wei et al., 2009). According to a study of 1,300 studies on the effectiveness of professional development,

Studies that had more than 14 hours of professional development showed a positive and significant effect on student achievement for professional development. The three studies that involved the least amount of professional development (5–14 hours total) showed no statistically significant effects on student achievement. (Yoon et al., 2007, p. iv)

The report goes on to state that “an average of 49 hours in nine studies—can boost their students’ achievement by about 21 points” (p. iii).

In order to ensure that teachers are engaged in high quality, long-term professional development and that programs are tied to district goals, we recommend that districts establish districtwide professional development committees. It is our experience that when teachers and administrators collaborate to design a district’s professional development program, the result is much more comprehensive and more likely to meet student needs. When individual teachers design their own university-based professional development programs, they may take

courses of personal interest to them; on the other hand, when numerous teachers are engaged in district-sponsored programs together, they are more likely to collaborate on district goals and transfer the knowledge and skills they learned to the classroom.

Research shows that the most effective professional development takes place every day for every educator. The goal is to create a web of active adult learners who are connected to each other within a school and to educators throughout the world. This newer approach to professional development includes: lesson study groups, teacher data teams, action research projects, mentoring programs, case study discussions, coaching, district-sponsored courses, programs offered by professional organizations, and technology-based distance learning. All of these approaches require educators to study their professional practices as a team and to receive specific feedback from colleagues. All of these group approaches take place over weeks and months and allow teachers to both share information and push each other to improve practice.

We have no doubt that today's hardworking teachers come to school each day and do the best job they know how to do. However, given our goal that all students achieve at high levels, it is unrealistic to expect that teachers will succeed with all students unless they also have a robust, continuous professional development program targeted to student needs. Most importantly, we see professional development as something that needs to occur every day in schools. Significant adult learning occurs when teachers analyze student work, collaborate with one another, and adjust instruction to better meet the needs of students. Every day, learning must occur not only for the students, but for the adults as well.

In the final section of this chapter, we discuss what happens when teaching and learning are an interactive process rather than separate acts. We will discuss how teachers who seek feedback from multiple sources are better able to modify their instruction in real time and to teach more students effectively.

## **LIMITATION SIX: TEACHING AND STUDENT LEARNING AS SEPARATE ACTS VERSUS TEACHING AND LEARNING AS AN INTERACTIVE PROCESS**

For most of our educational history, teaching has been the central domain of teachers and learning the main activity of students. In many ways, the teaching and learning process has been segregated by roles and responsibilities. While this separation may appear eminently logical to some, separating the teaching process from the student learning process significantly

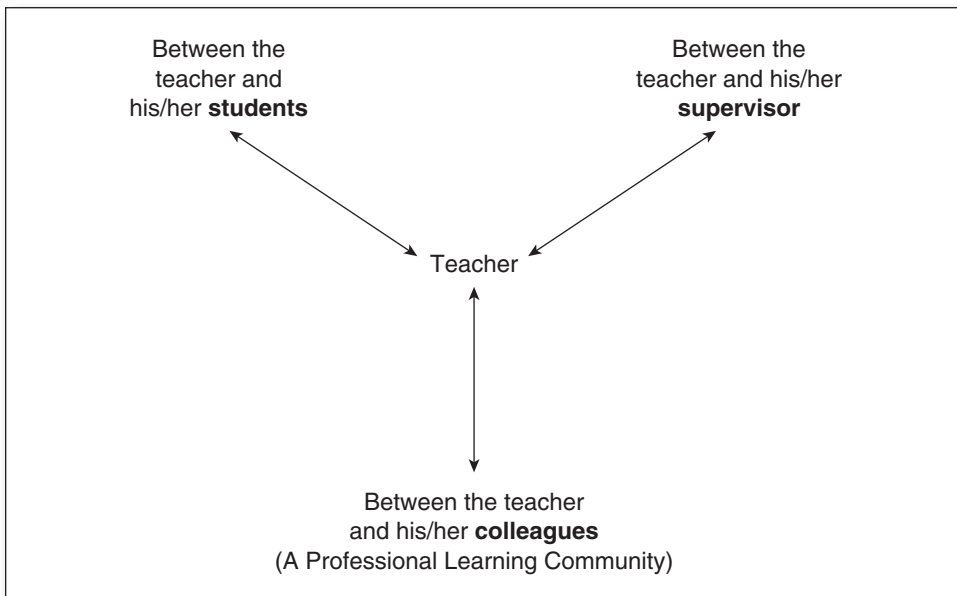


limits a teacher's ability to modify lessons in real time based on student needs. In addition, if a teacher's instruction is also cut off from feedback from colleagues, his or her capacity to improve instruction is diminished.

In order to unleash the potential of all educators within our schools and maximize their capacity to educate all students, it is vital that all teachers continuously learn from their students, supervisors, and colleagues in order to expand their knowledge and skills. As a teacher moves from an isolated teaching world to a collaborative learning community, he or she will need to increasingly seek and share feedback in three ways:

1. Between teacher and students;
2. Between teacher and supervisor; and
3. Between teacher and colleagues.

The interactive and dynamic process is represented in the diagram that follows.



The sharing of information between a teacher and students is the first component of an interactive teacher-student learning process. In order to shift from a batch model of education to a more individualized approach, teachers will need feedback from their students as they teach their lessons. By gathering information from students while a lesson is being taught, a teacher is able to adjust the lesson based on actual student needs at the

time. This continuous two-way feedback process should increase the level of student learning and student engagement. Some of the ways teachers can gather information about student learning in real time include teacher questions, student questions, teacher observations, student work products, and the use of formative assessments.

The ongoing dialogue between a teacher and supervisor is a second component of an interactive learning process; in this dialogue, teachers can receive feedback about their work and how their efforts stack up against standards and student results. When supervisor feedback is closely connected to the ongoing teaching-learning process, there is a greater likelihood that student achievement will increase. In too many systems, we have observed supervision and evaluation processes that provide little to no useful feedback to educators.

The establishment of a professional learning community (PLC) between and among teachers is the third way teachers can learn from each other and improve classroom instruction. In a PLC, teachers who share grades or subject areas meet during common planning periods to discuss student progress as measured against curriculum standards and to develop future lessons and intervention strategies. The shift from teacher isolation to an interdependent team allows the classroom teacher to gain the insights of colleagues and thus to increase teaching effectiveness.

In some school systems, we have observed that teachers insist that they have taught (or covered) the material adequately and that any lack of learning must be the student's fault. These teachers, dividing teaching and learning into separate acts, limit their capacity to learn what their students know day-to-day and to change their instruction based on that knowledge. Separating teaching from learning ensures that achievement gaps will remain static or even increase. When teachers gather information from students, supervisors, and colleagues, they are more able to nimbly respond to student needs on a continuous basis in real time.

## **WHERE DO WE GO FROM HERE?**

For hundreds of years, we, as Americans, never attempted to educate all students at high levels. American schools were designed based on the goals and values of many prior generations, which we do not always share. The national goal of educating all students to proficient levels only became federal law in 2001 with the passage of No Child Left Behind (NCLB). While some people criticize the means and resources of the 2001 law, the goal of high academic achievement for all students was a huge change in American policy.

NCLB created a framework to establish academic standards and mandated annual student testing with sanctions if academic standards were not achieved. The law did not, however, do anything to change the structure of schools themselves or the quality of teaching in schools.

Where do we go from here? The first step is recognizing that schools were designed in a different era and for different goals. The second step is starting a dialogue on how to restructure schools in ways that will foster the potential of millions of educators to educate all students at high levels.

In Chapter 1, we have described six historical factors that have limited the capacity of school systems to educate all students at high levels. The good news is that these limitations did not come down from Mount Sinai. These institutional and psychological obstacles can be overcome. In the remaining sections of the book, we describe how the limitations of the past can be eliminated or reduced and how we can unleash the collective intellectual power of educators to innovate and to more effectively educate all students.

In Chapters 2 through 6, we describe four conditions that are necessary to overcome the limitations of the past and to energize all educators, working as a team, to innovate, share best practices, and find effective and pragmatic ways to educate all students. In Chapter 7, once a school has created a culture of innovation, we will examine numerous ways interest groups can stop a culture of change. Finally, in Chapter 8, we discuss how school leaders can overcome opposition to changes needed to improve learning and how they can diffuse innovations throughout their schools and their school system.