School Reform Based on What Is Taught and Learned

by John F. Jennings

There will be disputes as each state moves at its own pace to implement standards-based reforms, Mr. Jennings predicts. But these disputes must not distract us from seeing the importance of this major change in American education.

WHEN YOU learned to drive a car or to play the piano or the violin or to fly a plane, you were told what you needed to know. Then you were guided and corrected as you went along. If you did not drive or play or fly correctly, you were taught some more, and then you tried again.

What could be a more logical way to learn something? It makes perfect sense that you would be told what you were to know, then helped along as you tried to master the material, and then given another chance to do it if you didn’t perform just right the first time.

That sensible way to learn is not the way that American public schools now operate in many important respects. But it is the way that students will be educated once a major reform of elementary and secondary education that has recently begun is finally implemented.

In American schools today, teachers explain material to students, help them to understand what they are doing right, and correct them when they are not mastering the material. And when teachers control the tests, they try to help students along so that they can do better the next time. But students, teachers, and the schools are often held accountable for performance on tests that students cannot learn to and teachers cannot teach to. Moreover, the results are not revealed to teachers or students, so there is no chance to learn from mistakes and work to do better next time.

Schools are caught in a "crapshoot" in which teachers are teaching in the dark and students are being tested in the dark. It amounts to a "gotcha" game. Students are not told exactly what they are going to be tested on, nor are they told afterward which questions they answered wrong so that they can learn the material for another time. Is it any wonder that high school students are not motivated to learn? They don’t see the relevance of what they are taught, since that’s not what they are held accountable for.

Many important decisions about students’ lives are made in this fashion. An example that is easy to understand involves the SAT I, the country’s most famous assessment, which is used every year to help determine the admission of hundreds of thousands of high school students to college.

A student cannot study for the SAT because the test prides itself on not being based on any one curriculum. A student can spend money to attend an SAT preparation course run by a private company, but all that company can do is to give some pointers on test-taking techniques and hazard some guesses as to the types of questions likely to appear on the test. No one but the Educational Testing Service, which writes the SAT, knows for sure what will be on the test. And those students who cannot afford the fees of those private courses are not even given the benefit of the educated guesses of the test preparation companies.

Admission to college is not the only matter decided in this fashion. Many states also require a student to pass a standardized test in order to graduate from high school, and many school districts require students to pass a test to proceed from one grade to the next. All of these major decisions are made on the basis of tests that cannot be taught because they consist of material that is unknown and whose results are not revealed afterward so that students can learn from their errors.

Does this seem like a strange system of education? If we were to learn to drive, play a musical instrument, or fly a plane in this way, there would be many more car wrecks, discordant noises, and plane crashes than there are now. Imagine having to guess the right ways to drive, play music, or fly. Is it any wonder then that the public schools are struggling so hard to improve and, in the popular opinion, not succeeding?

THE IRONY is that public education has just been through a period of reform unmatched in intensity and length. During the late 1970s and throughout the 1980s many states toughened high school graduation requirements, instituted professional testing for teachers and raised their salaries, and experimented with countless ways of improving teaching and learning.

But by the end of the 1980s the general impression was that the schools had not improved very much, if at all. This view was based on the fact that SAT I scores had not increased substantially, that college professors were still complaining that students were not ready for postsecondary education, and that employers were asserting that high school graduates were unprepared for the workplace.
The American public is edgy and impatient with the schools and wants results, asserted Richard Riley, the U.S. secretary of education, in a summer 1993 speech to the nation's governors. The country will be out of business if public education does not reinvent itself - and fast, according to Louis Gerstner, Jr., CEO of IBM, in a May 1994 article in the New York Times. Gerstner went on to assert that, just as American business had to change in order to become competitive, so would American schools. However, he found chilling the combination of public apathy and bureaucratic obstructionism that stood in the way of the needed changes.

Since the late 1970s public education has in fact undergone reform, and evidence from the early 1990s shows that more students have been taking more difficult courses. Moreover, even though greater demands are being placed on students, the dropout rate has not increased. But there is also clear evidence that grade inflation has occurred and that a grade of C has crept up to a grade of B. It seems that teachers and students, under pressure to improve and lacking objective measures of progress, simply allowed grades to rise to show improvement.

Ironically, the school reform movement of the late 1970s and the 1980s, which created this pressure to improve, also helped to confuse the situation further because many states instituted or expanded testing systems without linking the tests to the curriculum. By 1994, 45 states had instituted or expanded testing programs for elementary and secondary education, but only 10 or so had any type of mandated curriculum that would tell teachers and students ahead of time what they were going to be tested on and held accountable for.

In other words, there is no "truth in teaching and learning" in many schools. Teachers and students can only guess, sometimes with limited guidance, what they are supposed to know in order to be deemed successful. The reason for this lack of connection between the test and the curriculum is that accountability has been moved to the state level, while the decisions on what ought to be taught have been left at the local level. The politicians - governors and state legislators - have responded to public displeasure with the public schools by instituting new tests in an effort to get better results from the schools. But few policy makers have moved to define first what results are to be expected on these tests. The reason for this "disconnect" lies in our nation's history. The U.S. Constitution embodies the idea that government should be limited in its powers and that the closer the government is to the people, the better it will function. In education this has meant that, although states have authority over the schools, the power to determine the content of education has usually been delegated to local school boards. And since there are 14,000 or so school districts in the country, there is great variance in the education being offered to students.

In 1989 the National Academy of Sciences undertook a searching review of mathematics in the public schools, since American students consistently rank below students in many other industrialized countries on international tests. Its report describes the way the mathematics curriculum is typically fashioned in local school districts. It concluded:

In the United States, with our traditional and legal decentralization of education, we go about things very differently [than in other countries]. Every summer, thousands of teachers work in small teams for periods ranging from one week to two months, charged by their school districts to write new mathematics curricula. These teacher teams usually have little training in the complicated process of curricular development, little or no help in coping with changing needs, and little to fall back on except existing textbooks, familiar programs, and tradition. The consequence usually is the unquestioned acceptance of what already exists as the main body of the new curriculum, together with a little tinkering around the edges. Many school districts simply adopt series of textbooks as the curriculum, making no effort to engage the staff in rethinking curricula; in those places, the status quo certainly reigns.

The American process of curricular reform might be described as a weak form of grass-roots approach. The record shows that this system does not work. It is not our teachers who are at fault. In fact, teachers should play a dominant role in curricular decision-making. But teachers who work in summer curricular projects are being given an unrealistic task in an impossible time frame, with only the familiar status quo to guide them.

In static times, in periods of unchanging demands, perhaps our grass-roots efforts would suffice to keep the curriculum current. In today's climate, in which technology and research are causing unprecedented change in the central methods and applications of mathematics, present U.S. practice is totally inadequate. In other words, the decisions about curriculum that are made locally would seem to respect the national tradition of local control whenever possible - but, as the National Academy of Sciences suggests, this system may have outlived its usefulness in a rapidly changing world. And, as already noted, the problem has become further complicated, in that states have testing programs in mathematics and other subjects
that do not match what teachers in local school districts teach. When the results of these state assessments come out later, the public believes that the students have not learned the material and that the schools have failed.

This does not have to be the way that education is provided. "We have a history of not training students in the material they will be tested on. Other countries don’t hide the test from students," according to the New Standards Project, which issued a report on the reasons that students in other countries do better in mathematics than American children. "That doesn't mean particular questions or answers of any one test are revealed to students. It means that teachers are able to gear what and how they teach towards the kind of questions that will appear on examinations." In other words, students and teachers in many countries are told what they are expected to know and be able to do, and then they are held accountable for mastering that knowledge.

This kind of clarity in teaching and learning is a far cry from "the confusion that reigns in most [American] schools today where tests are generated by one vendor, textbooks by another, and teachers are trained by people who don't know much about specific curriculums," according to an article co-authored by Marshall Smith and Ramon Cortines, the chancellor of the New York City school system. Again, this system of conflicting signals is about to change, and none too soon to help teachers and students do better than they are doing now.

The American public supports change in education when that change will make teaching and learning clearer in U.S. schools. Every Phi Delta Kappa/Gallup poll of the public since 1989 has found an overwhelming majority of citizens in favor of a basic curriculum of subject matter for all schools - or what has been called in some of the surveys a "national curriculum." Some 69% favored a standardized national curriculum in the local public schools in 1989, and by 1994 this percentage had increased to 83%. But the desired change in education can be achieved without a national curriculum if states move to institute standards for their schools. Nonetheless, the poll results are interesting in that they show that the public is ready to go even further than is absolutely necessary to bring about improvements in American education.

THE PROCESS OF instituting standards is already under way. During the late 1980s a movement began with the stated purpose of helping teachers to know what they are to teach and students to know what they are expected to learn. Learning and accountability are starting to be linked so that all the rules will be known ahead of time and students will be able to work toward achievable objectives.

This major change is generally labeled "standards-based" reform. It means that agreement will be achieved first on what students are to know and be able to do. Then progress through school and graduation from high school will be determined according to mastery of this content. Teachers will know ahead of time what they are to teach, and students will know what will be expected of them. The reforms of the late 1970s and 1980s led to this change because leaders began to recognize that the reforms made in that period too often focused on such things as instituting new testing programs without paying attention to curriculum - or increasing course requirements without considering the quality of the education being offered. As the Consortium for Policy Research in Education concluded:

Although students took classes with challenging titles as a result of the reforms, the titles did not ensure quality academic content. The increased number of tests only reinforced the poor skills and rote instruction that motivated the reform in the first place. Lessons learned from this experience led federal and state governments, as well as professional associations, to define content standards and expected student outcomes.

The movement toward reform based on defining standards began among mathematics teachers and in some states that had strong educational leadership. In response to the report of the National Academy of Sciences quoted above and to other such studies, the National Council of Teachers of Mathematics (NCTM) initiated an effort in 1989 to develop standards for mathematics. Those standards were issued by the NCTM in 1992. Meanwhile, Bill Honig, the state superintendent of schools in California, had already begun to develop curricular frameworks for the basic subjects in the early 1980s. Other teachers' associations and other states were encouraged by these experiences and initiated their own work on developing standards and frameworks.

The general public, the teacher associations, and some states were ahead of the country's leaders on this issue. But national politicians soon caught up. In 1989 President Bush and the nation's governors agreed on the idea of establishing national goals for education, the first ever to be adopted. This movement evolved into broad agreement on the need for voluntary national standards for education in order to pursue the goals.
One important development in this evolutionary tale was the appointment by the Bush Administration and the Congress of a bipartisan commission to review the issue. The National Council on Education Standards and Testing, whose membership was representative of a wide cross section of political views, issued its report calling for such standards in 1992. The report’s depiction of American schools is important in understanding the motivation for this reform.

In the absence of well-defined and demanding standards, education in the United States has gravitated toward de facto national minimum expectations. Except for students who are planning to attend selective four-year colleges, current education standards focus on low-level reading and arithmetic skills and on small amounts of factual material in other content areas. Consumers of education in this country have settled for far less than they should and for far less than do their counterparts in other developed countries.6

That is the major reason that national and state leaders have coalesced around the need for defining content and student performance standards: the quality of American education must be improved, and the current system of relying on local decision-making power over curriculum is failing to bring about that improvement. As a result of this broad agreement, President Clinton, building on the work started by former President Bush, signed into law in 1994 the Goals 2000: Educate America Act (P.L. 103-227), which places the national goals into law, supports the certification of voluntary national education standards and national skill standards, and encourages the states through grant aid to develop their own standards for education.

As standards-based reform plays out in the states, now with the assistance of the Goals 2000 legislation, complete agreement on every detail of each state’s plan cannot be expected, nor is it reasonable to anticipate concurrence on every aspect of the Goals 2000 legislation itself. For instance, the current debate in Congress seeks to modify certain aspects of the law, especially with regard to the national certification of standards, and shows that the premises of the national role in standards-based reform may have to be re-argued as newly elected representatives come to their posts without knowledge of the prior debates.

But the logic that moved the nation’s mathematics teachers, the National Academy of Sciences, the country’s major business organizations, the national education groups, and the Bush and Clinton Administrations to endorse standards-based reform remains compelling. If American students are to do better in school, we must agree on what they are to learn, and this agreement must seek greater mastery of content than is now being achieved. And, despite the publicity that has been accorded the national standards as they have been released, the far more important decisions with regard to content are being made at the state level, where the Constitution places control of education.

Even before the enactment of Goals 2000, the states were moving independently to develop their own agreements on what should be taught and learned, and they have used the federal aid to accelerate this work. As of May 1994 (a month after Goals 2000 became law and before any funds were released), 42 states had already developed or were developing content standards, and 30 were developing or had already adopted student performance standards to measure mastery of content. As of January 1995, 42 states were receiving Goals 2000 funding to help them in these efforts.

NATIONAL standards are important in showing what the various subject-matter associations think ought to be mastered in their content areas, but the national news media’s focus on national standards has blown them out of proportion and has stirred up a fear that somehow these standards can be imposed as a national curriculum. That fear is unfounded for two reasons.

First, during the congressional debate on Goals 2000, the U.S. Department of Education was explicitly barred (as it has been in the past) from imposing in any way a curriculum on states or local school districts. State control over education was reaffirmed, as it should be under the Constitution. Consequently, no federal agency would dare to undertake the task of melding and balancing the various national standards to fashion a curriculum that it would then mandate the states and local school districts to follow.

Second, these national standards were composed in a manner that makes the task of combining them into a curriculum impossible without a great deal of editing, conforming, and choosing of appropriate expectations for students within the confines of the school day and year. Nor are the specifics of various sets of standards compatible, because there was no coordination of effort in their development. Nor are they easily melded into a curriculum, because each group of teachers thought students should know so much about their particular area. These standards are more resource documents than they are specific curricula - or even curricular frameworks.
For these two reasons the states are not using the national standards in the ways that critics have feared. As a spokesman for the Council of Chief State School Officers (CCSSO) reported in March of this year: Some states probably won't do standards at all. Some other states - Kentucky and California, for example - are trying to build a standards-based system, and they're taking some care to make sure that their standards are consistent with these voluntary national standards. Other states are doing different things. Vermont is organizing its standards into clusters. Math, science, and technology are in one cluster, and the arts and the humanities are in another cluster.

These developments show a healthy federalism, with the national government funding the agreements on national standards that were reached by the subject-matter specialists, while the states choose their own approaches to the use of these resources.

Another encouraging development, according to the CCSSO, is that the states are beginning to use the standards process as a way to improve their schools overall. An agreement on what should be taught and learned is an essential step in reform because it goes to the very heart of schooling, but it is certainly not the only action that must be taken. Assessments need to be updated, teacher training and certification need to be modified, and teachers need to know what is to be expected of them. In addition, much more equity needs to be introduced into the now very unequal distribution of resources in our thousands of school districts. All these steps are absolutely fundamental to making comprehensive school reform work, and without them the effort to reach agreement on what students ought to know and be able to do has much less meaning.

In a way, what must happen is that the strong push to improve the schools one by one - epitomized by the efforts of Theodore Sizer, James Comer, Henry Levine, and others - must be joined by a push for higher standards and systemwide change coming from the chief state school officers, the governors, the business community, and the subject-matter organizations. While the standards movement can bring greater clarity to American schooling, schools also need to be changed one by one, because teachers and principals ultimately determine the quality of the education offered to students each day. A marriage of systemic reform and school-based reform would be helpful to both movements, especially now that standards-based reform is under political attack. Over the last few years most states, the subject-matter associations, the national education organizations, and the business community have developed a broad consensus that school reform must include an agreement on what is to be taught and learned. Only time will tell, though, how the vicissitudes of politics and change will affect this consensus.

Standards-based reform efforts are even now making progress in many states, and their impact will start to appear in classrooms around the country in the next few years. By the end of the century American education may be quite different from what it has been. Teachers will know what they are to teach, and students will know what is expected of them. But students, teachers, and the general public must understand why these changes are coming about, because there is often a reluctance to change and a nostalgia for the "good old days."

Furthermore, as standards are fashioned by the states, controversy will surround them. Some states have already begun to battle over what is called "outcomes-based education," as political forces try to defeat that change and to revert to what they call "traditional schooling." These battles stem from a misunderstanding of standards-based reform, which is meant to focus on the acquisition of academic skills and not on affective development, but a broad brush is being used to tar any reform that is based on mastering subject matter. Other controversies will undoubtedly arise as political forces use the development of standards as a wedge to bring up social issues.

In the congressional debate on reaching agreement on standards-based reform through the enactment of Goals 2000, many of these controversies came up. And echoes of these debates will appear again and again, as each state moves at its own pace to implement the different phases of standards-based reforms. But these disputes must not distract us from seeing the importance of this major change in American education. The country is moving to a new way of schooling that will not only lead to a better education, but will also be fairer to both teachers and students in that they will know what is expected of them. The country is moving in the direction of truth in teaching and learning.


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