Do We Have the *Will* to Educate All Children?

If we embrace a will to excellence, *we can deeply restructure education in ways that will enable teachers to release the full potential of all our children.*

ASA HILLIARD III

Between 1953 and 1955 a young instructional assistant at Cornell University was completing graduate work. Abdulalim Shabazz was frequently selected to serve as a teacher or tutor to his peers when his professors could not be present, because, as he puts it, "I was blessed with a logical mind and an inclination to make things simple, plain, and real." This was nothing new for Shabazz. After all, he had graduated during the segregation era from the famous Dunbar High School in Washington, D.C., an African-American high school, which had produced some of the finest scholars in the history of the United States. There, too, when his mathematics teacher had to be absent, Shabazz was often called upon to take over the class.

Later Shabazz would earn his doctorate in mathematics and would serve as a faculty member at two historically black institutions, Atlanta University in Georgia and Tuskegee Institute in Alabama.

"Give Me Your Worst Students"

One period of his illustrious career as a research scientist and professor is of particular interest. During the years between 1956 and 1963, when Professor Shabazz was chair of the Mathematics Department at Atlanta University, 109 students graduated with master's degrees in mathematics. Thereafter, more than a third of that number went on to earn Ph.D. degrees in mathematics or mathematics education from some of the best universities in the United States. Of considerable significance is that many of them (the 109) produced students who also earned Ph.D.s in mathematics and mathematics education. It is estimated that nearly 50 percent of the present African-American mathematicians in the United States (about 200) resulted either directly or indirectly from Atlanta University's 109 master's degree recipients during the seven-year period from 1956 to 1963. This is an extraordinary record. Shabazz, directly or indirectly, is linked to the production of more than half the African-American holders of the Ph.D. in mathematics. That fact alone would be worthy of note. What is even more



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important, however, is that a significant segment of the 109, according to Shabazz, began their student careers with serious academic deficiencies, not only in mathematics but in language arts skills as well!

Recently Shabazz returned to Clark Atlanta University as chair of the Department of Mathematics. Once more, and in a very short period of time, he has initiated changes that seem to be leading toward another productive era. At one point, when stimulating the faculty to greater productivity and in response to some expressed doubts by some faculty members about the abilities of Clark Atlanta University students to do higher mathematics, Shabazz challenged his peers to *"give me your worst ones, and I will teach them!"*

Aware of Shabazz's track record, and perhaps in reflection on their own summary judgments, many faculty took up the challenge themselves. The fruits of their work are already becoming apparent.

In an interview, Shabazz shared with me the contents of recent letters from several of his former students who had written to him to express appreciation for his key influence on their academic development. When discussing these testimonials, not only was it clear that SAT and ACT scores have almost no meaning for him, but also that Shabazz has a focused set of excellence-level goals that have shaped his approach to dealing with all students. His goals are:

1. to teach understanding rather than merely to teach mathematical operations;
2. to teach mathematical language for the purpose of communicating in mathematics and not merely as a way to solve textbook problems;
3. to teach his students that math is not at all a fixed body of knowledge but that it is an experimental enterprise in the truest sense of that word and that their approach to the solution of mathematical problems then and in the future should be to try a variety of strategies;

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4. to have students believe as he does that mathematics "is nothing more than a reflection of life and that life itself is mathematical." He wants them to know that the symbols used in mathematics approximate the reality of human experience and cosmic operations;
5. to give his students a sense of hope that they can become superior performers.

Shabazz also emphasized teaching his students problem solving and, then, just as important, perhaps even more so, teaching them the skill to "write up" what they had done "in a beautiful way." When his students did this, and most did, he would point out to them that they had, after their deep study, "seen things that had not been there before," that they had actually seen what mathematics is all about, not merely the manipulation of numbers but perceiving *"patterns."* Shabazz's overall goal was to involve students in *being mathematicians,* not merely learning recipes.

Shabazz bristled at the thought of teachers who "taught down" to students, even those with a history of low academic performance, "treating them like babies." He decried some teachers who start the year by announcing to their class that "at least one-half of the students in this class will fail." Instead, his approach was to "appeal *to the intellect"* of each and every student, *"to their humanity,"* and *"to their reasoning,"* rather than to an emphasis on the mastery of algorithms.

Shabazz lamented the fact that society in general has internalized a false paradigm about learning, especially in mathematics, that comes from late 19th century Social Darwinism. The tenets of this belief system include the idea that high levels of conceptually oriented mathematics achievement are accessible to but a few, and that even these few will not include many, if any, African-Americans, Hispanic-Americans, and certain other cultural minority groups.

Shabazz mentioned in passing, almost apologetically, that he had never had a course in teacher education.

"Practice, Practice, and More Practice"

Another example of successful teaching of minority students is the work of Jaime Escalante at Garfield High School in Los Angeles (Escalante and Dirman 1990).

During the past 10 years at this one high school, more than 500 students, mainly Hispanic, mostly low income, have been taught well enough that they passed the *Advanced Placement SAT Calculus* test. How many other high schools in America can boast of such a record, "inner-city" or not?

I am impressed by what Jaime Escalante, the catalyst on the faculty, had to say about his approach.

> I do not recruit these students by reviewing test scores or grades, nor are they necessarily among the "gifted" or on some kind of "high IQ track," because I believe that tracking is unworkable and unproven as a guarantee that students will be challenged into the program of classes best suited to them. *My sole criterion for acceptance in this program is that the students want to be a part of it and sincerely want to learn math.*
>
> . . . in 1979, when junior high school teachers would tell me, "Take Johnny, he's gifted in

> math," I would almost always ignore them. Such a recommendation was almost a guarantee that I would pass that child over. If the child was in fact gifted, I figure he or she would need less help from the teacher. Secondly, few of the "gifted" were appreciably different from the "average"—except in their ability to score high on tracking tests. Instead I often choose the rascals and kids who were "discipline problems," as well as those who simply liked math. I found that the "class cut-ups" were often the most intelligent, but were extremely bored by poor teaching and disillusioned by the perceived dead-end that school represented for them. Sometimes they showed themselves to have the most *"ganas"* when their "learning light" finally switched on" (Escalante and Dirman 1990, p. 3).

There is no shortcut for minorities at Garfield High School. In order for students even to sit for the AP exam, they must have completed Algebra I, Geometry, Algebra II, Trigonometry or Math Analysis, and Calculus for first-year and/or Calculus for second-year college. Some students also take analytical geometry or a precalculus program during the program. Most had never taken algebra prior to the program.

In spite of their astonishing success, Escalante and his colleagues found themselves, like Shabazz, struggling with the system. This teacher with an extraordinary track record was fighting just to get appropriate textbooks.

> Because the cost of such texts was often far greater than the school allowance, I found myself in conflict with the administration. I also received my first introduction to Title I. When I went to one administrator to ask for the textbooks I felt I needed to raise the students' scores to even the minimum standard of competency in the routine state and district mandatory testing, I was told, "No, Jaime, those books do not qualify for Title I, they are clearly not remedial." This same individual also told me, in complete seriousness, "Jaime, if you get better test scores for these kids, then they're not going to qualify for Title I money." I had to fight many protracted battles to convince others that the more expensive books were not an extravagance but a vital necessity" (Escalante and Dirman 1990, p. 4).

Our current ceiling for students is really much closer to where the *floor* ought to be.

Escalante emphasized the value of hard work. Practice, practice, and more practice was demanded from each student. In addition, he and his colleagues emphasized the necessity for exposing students to the high-tech math world and to successful role models.

One of the beauties of the Escalante experience is what it suggests about the design of teacher education.

> In the mid '70s a young math teacher at Garfield, Ben Jimenez, was about to leave the profession because his students were out of control. I helped Ben to learn to discipline and control his classes, and from then on he was free to concentrate on developing his skills as a teacher. Today Ben Jimenez is an award-winning teacher. He contributes many students to the total number of AP Calculus passes each year and is a vital member of the team (Escalante and Dirman 1990, p. 4).

Releasing the Genius in Children

Here, then, is another teacher who teaches students of families who are mostly below the poverty line. I continue to be shocked that so many professional educators are quick to insult the skill and hard work of such teachers as Escalante and Shabazz by labeling them "charismatic." They suggest by implication that charisma is magical and therefore beyond the reach of "ordinary" teachers; a secondary implication is that only charismatic teachers can help low performers. *These professionals have changed children's lives with their own sweat, blood, and tears.* Other professionals who prepare well and work as hard can do the same thing.

As I have reviewed the work and comments of dozens of great teachers, their conversations sound right for true professional teachers. They seem to share in a true educator's ethos. Common discussions of education all too often are characterized by uninspired technical barrenness, are shaped by bureaucracy and by a *structured ideology* that permeates the society, causing many of us to doubt the fundamental human potential of the masses of our children. Our faith in the students and in ourselves is often so low that our approach to the teaching task lacks the vitality so typical of natural human teaching/learning encounters. To me, the Shabazzes and the Escalantes exhibit more of the characteristics of informal mother-child learning dyads in healthy societies than they do of factors most talked about in teacher training. Maybe our professional conversations are on the wrong topics. Maybe we are looking in the wrong direction for school improvement. The valid change process just may be more direct, straightforward, and less complicated than we think.

I keep asking myself whether there is anything in the current educational reform agenda that would lead us to the philosophy, the *thought*, the *affect*, the *energy*, and the *results* of the most productive pedagogy in the field, like Shabazz and Escalante. Do we even

have the capacity to conceive of these teachers of excellence as our models? I want us to engage the problem of how to structure an approach to education that aims to *release the genius* that is common in the masses of our children, just as these good teachers do! First, we must believe that the genius is there. Do we really believe that it is?

It is hard to take seriously the idea that the masses of our children are geniuses when we embrace the wrong pedagogical paradigm—in spite of new rhetoric to the contrary. We have maintained historical commitment to the same paradigm that we had when public school education began in the U.S., ascribing genius to a select few. We have embraced a related *prediction* paradigm that tells us that the major task of assessment professionals is to forecast future performance, not to assist with problem solving in teaching and learning. We have continued to embrace the tracking paradigm. Even when children have been untracked organizationally, in our minds they remain "gifted," "average," and "retarded." Otherwise our national achievement results would leave us with a greater sense of urgency than we now manifest.

Research on Infants and Complex Thinking

Sometimes, where educators are concerned, I wonder if the real meaning of the research findings on infant thinking has begun to sink in. Think of all the years that we have thought about thinking. For many of us, the model for human thought included the false concept of tabula rasa or the "blank slate." Many of us were taught in teacher education that infants were not really capable of thinking complex thoughts, which were regarded as the result of maturation and long-term nurturance. One famous researcher on infancy told a Chicago audience of early childhood educators that "there just isn't much there until babies are six-months old."

Deep restructuring is a matter of drawing up an appropriate vision of human potential, of aiming for the stars for the children and for ourselves academically and socially.

What has become increasingly well documented, however, is that while maturation and nurturance may explain some aspects of thinking, teaching, and learning, babies start from a cognitive baseline that is nothing short of awesome. In the November 1990 issue of the American Psychological Association *Monitor*, Lori Denton reported:

> Contrary to the findings of developmental psychologist Jean Piaget, infants as young as three-and-a-half-months old understand some of the physical and spatial properties of objects hidden from view, according to Rene Baillargeon of the University of Illinois. *She found that even very young infants share the physical reasoning ability of adults!* They understand that objects continue to exist when hidden, that they cannot move through the space occupied by other objects, and that they cannot appear at two separate points in space without traveling from one point to the other (Denton 1990, p. 8, italics mine).

In reading about Professor Baillargeon's work, I recalled the wonderful book *Children's Minds*. In that book, Margaret Donaldson (1978), a cognitive psychologist, demonstrated that by constructing more sophisticated and appropriate tasks for infants and young children, it was possible to demonstrate that they reach standard levels of intellectual development months and years earlier than suggested in the research of Piaget. In other words, our judgment about the level and complexity of the mental functioning of infants was, in many cases, based on data that were *artifacts of the form in which interrogation proceeded* that it was a true representation of what infants could do.

> In her experiments, Baillargeon used visual tasks rather than the manual search tasks Piaget used, *reasoning that infants might perform poorly not because of their misunderstanding about hidden objects, but because they have limited ability to plan and execute the search task.* . . . In another series of experiments, she found that infants learned to solve qualitative problems before they learned to solve quantitative problems . . . that infants used qualitative strategies to assess the effect of quantitative variables because they cannot reason quantitatively about them. *The inability to reason quantitatively has little to do apparently with mental ability and more to do with the possession of accumulated experiential content upon which quantitative reasoning can be performed. That is a matter of time and exposure, not intelligence* (Denton 1990, p. 8, italics mine).

One of the highly significant things about the research is that the infants are examined at a stage in their development prior to *the impact* of inequitable cultural socialization. Baillargeon then delivers the bombshell:

> *"No matter what their socioeconomic background, race, or gender, babies of similar ages tend to perform similarly on the basic test," she said. . . . "Adults' memories differ from infants primarily because they process information much more rapidly and have many more memories to make associations with,"* she said. . . .

"The findings are surprising because neuropsychologists have been saying that infants are not capable of representing in their memory information about setting or place until their hippocampus is formed at around eight to nine months of age," she said. The neuropsychologists "are going to have to revise their ideas." She said that so far "some are very nice about it and some are not" (Denton 1990, p. 8, italics mine).

Just as there is a vast untapped potential, yes, genius, among the children, there is also a vast untapped potential among the teachers who serve the children.

Teachers as Mediators of Students' Potential

I have been convinced for a long time that the meaning of the findings of this type of research, when considered in the context of the powerful teaching performances of such teachers as Shabazz and Escalante, is that there is a universal genius among human beings. Teachers are the *mediators* who provide or fail to provide the essential experiences that permit students to release their awesome potential.

We all have enormous mental capacity to do the things required of us in either a high-tech or a low-tech society. There simply is no reality base whatsoever for the pessimistic attitude about human potential that is so widespread. In other words, the ubiquitous question about the intellectual capacities of students, which has preoccupied American educators for the past 80 to 90 years and which continues to be central in our thought structure, is for our purposes at this point virtually meaningless for powerful pedagogy! The continuing addictive preoccupation with mental assessment and labeling deters and distorts critical analysis of professional services, prevents the improvement of professional practice, and impedes the execution of valid strategies. Why can't we abandon harmful or meaningless professional practices—or replace them with valid ones?

Saying that the evidence for human genius is overwhelming is not to say that all people are identical in their abilities to do intellectual tasks. There may very well be cognitive differences among learners. However, our concern for these differences should come only after our students have reached an academic achievement level far beyond that which they reach now. Our current ceiling for students is really much closer to where the *floor* ought to be.

The Beauty and Promise of True Restructuring

The restructuring that educators need to do, then, is much more a matter of *theory, philosophy, perception, conception, assumptions,* and *models* than it is a matter of rearranging the technical and logistical chairs on the educational *Titanic*. It is not a matter of the amount of time, of middle schools or junior high schools, of site-based management, of schools of choice, of behavioral objectives, of access to technology. *Deep restructuring* is a matter of drawing up an appropriate vision of human potential, of the design of human institutions, of the creation of a professional work environment, of the linkage of school activities and community directions, of creating human bonds in the operation of appropriate socialization activities, and of aiming for the stars for the children and for ourselves academically and socially.

The fundamental problem in deep restructuring has more to do with *aim* and *appropriate practice* than it does with additional resources. If we apply criteria from deep restructuring to existing practice, we will surely find and eliminate gross misuse of precious physical and human resources. Who could deny, for example, that we have wasted incredible resources trying to answer the capacity question for the past 70 years and that, in doing so, we have used the results so as to cripple the capacity of schools to serve the children? In addition, we have dragged professionals into practices that are not only inappropriate but professionally unrewarding, debilitating, demeaning, and depressing as well.

The beauty and promise of true restructuring is that it will provide us with the opportunity to create educational systems that never have existed before, not because they were hard to create but because we have not yet made manifest the vision or tried to create them. If the 1990s is to offer anything to education, it would be a new vision of what it is that we are supposed to do and a new commitment to create educational systems that prepare students both for their economic role in society and for their social, intellectual, and spiritual enhancement as well.

For example, I have long wondered why it took us so long to "discover" cooperative learning, an approach that is well known among many peoples in the world, and why, once "discovered," it has become so difficult to execute. At least one reason must have to do with the fact that we do not have *a cooperative philosophy in the general culture*. The pervasive commitment to vouchers and school choice certainly does not suggest a cooperative but, rather, a competitive philosophy. We no longer accept, it seems, the idea that we are our brothers' and sisters' keepers.

Tapping the Potential of Teachers

While I am convinced that a large part

of our difficulty has to do with the way we think about educating our children, that issue is connected to an even more basic problem. That is the way we teach and the way we regard our educators, especially our teachers. Just as there is a vast untapped potential, yes, genius, among the children, there is also a vast untapped potential among the teachers who serve the children. I believe that the intellectual and professional potential of our teachers has been drastically underestimated, as a consequence of the same paradigm that causes us to underestimate the intellectual and professional potential of our students.

Some of us challenge those who have little faith in the intellectual capacities of the average student. A project in Chicago, sponsored by the National Endowment for the Humanities, does the same thing for teachers. Senior professors from the University of Chicago, Northeastern University, and Chicago State University—from the fields of Classics, Egyptology and Assyriology—in addition to the Chicago School of Inner-City Studies, have organized an intellectual banquet for regular classroom teachers at the middle school level. In a yearlong seminar, these teachers study the great literature of Ancient Egypt, Mesopotamia, and Greece. As regular classroom teachers read and talk about these great bodies of literature, I have been struck by the intellectual awakening among them and how it becomes manifest in their subsequent course preparation and their teaching.

Teachers need their own intellectual and emotional hunger to be fed. They need to experience the joy of *collaborative discussion, dialogue, critique,* and *research.* An enriched academic foundation is definitely a prerequisite for an enriched pedagogical foundation, and together the two provide a level of comfort for the teacher who supports professional dialogue as well as teacher-student dialogue. The primary roles that the teacher ought to play in service to children are enhanced by the development of the teacher's intellectual power and professional socialization. Such roles include:

1. the teacher as a member of an intellectual learning community, both general and specialized;
2. the teacher as stakeholder in the community that he or she serves;
3. the teacher as community advocate and not merely as student advocate;
4. the teacher as participant in goal setting for children and their communities.

As you can see, this view contrasts sharply with that of the teacher as mere technician in an environment characterized by lack of esteem and trust in professionals.

To restructure, we must first look deeply at the goals that we set for our children and the beliefs that we have about them.

A Will to Excellence

To restructure we must first look deeply at the goals that we set for our children and the beliefs that we have about them. Once we are on the right track there, then we must turn our attention to the delivery systems, as we have begun to do. Untracking is right. Mainstreaming is right. Decentralization is right. Cooperative learning is right. Technology access for all is right. Multiculturalism is right. But none of these approaches or strategies will mean anything if the fundamental belief system does not fit the new structures that are being created.

The risk for our children in school is not a risk associated with their intelligence. Our failures have nothing to do with IQ, nothing to do with poverty, nothing to do with race, nothing to do with language, nothing to do with style, nothing to do with the need to discover new pedagogy, nothing to do with the development of unique and differentiated special pedagogies, nothing to do with the children's families. All of these are red herrings. The study of them may ultimately lead to some greater insight into the instructional process; but at present they serve to distract attention from the fundamental problem facing us today. We have one and only one problem: *Do we truly will to see each and every child in this nation develop to the peak of his or her capacities?*

If our destination is excellence on a massive scale, not only must we change from the slow lane into the fast lane; we literally must change highways. Perhaps we need to abandon the highways altogether and take flight, because the highest goals that we can imagine are well within reach for those who have the *will to excellence.*

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