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# Linking Restructuring to Authentic Student Achievement



*Unless plans for new structures are guided by a vision of educational outcomes that articulates new standards for student achievement and for teaching, restructuring is not apt to produce favorable results for students, Mr. Newmann warns.*

BY FRED M. NEWMANN

**T**HE CALL to restructure education sends an ambiguous but serious message. The word *restructure* suggests that the system is so fundamentally flawed that such terms as *innovation* and *reform* aren't robust enough to describe the changes that are needed. But what exactly is the challenge that we face in restructuring? What needs to be changed, in what ways, and for what purposes?

The history of education in America has been punctuated repeatedly with powerful slogans that mobilize the energy of practitioners, researchers, and policy makers. Recent examples include "back to basics," "relevance," "community control," "cultural literacy," and "effective schools." Much of a slogan's appeal rests in its capacity to conjure up multiple meanings that can draw diverse constituencies together in a common cause. While a slogan galvanizes public opinion and

focuses energy, thus offering new possibilities for action, its ambiguity brings the great risk that energy will be dissipated in scattered, even contradictory, directions.

Therefore, before committing ourselves to new structures, we should try hard to reach agreement on the nature of the sys-

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tem's failure. For without agreement on the nature of the illness and on the purpose of treatment, the pursuit of radical cures could do more harm than good for students.

Today, reformers tend to address two main issues. The most obvious is the large proportion of students, especially low-income students of color, who fail in school and score poorly on nationally standardized tests. Much of the rhetoric about national education goals reflects concern about this group. Another issue — less popular, but perhaps even more disturbing — is that even those who succeed in school and score well on conventional tests have not been educated to cope successfully with the demands of personal, vocational, and civic life in contemporary society.<sup>1</sup>

Is the point of restructuring to provide a better way of teaching the current curriculum to students who haven't learned it through the old structure? Or is restructuring to be a vehicle to fundamentally change what is taught and how it is taught to all students? These alternative aims for restructuring can reflect conflicting goals of education, and the goals held by those pursuing each aim may lead to the creation of very different types of educational environments. It may not be necessary to choose between these stark alternatives, but the tension must be recognized. It reflects a persistent historical debate about educational ends that has no simple resolution and that even the restructuring movement will not solve once and for all.

Regardless of one's position on the forms of competence that schools should promote and regardless of the fact that large proportions of parents and educators perceive the schools to be working well, there are at least two grounds for seriously entertaining the prospect of fundamental organizational change. First, teachers face the persistent difficulty of engaging students in serious academic work in schools as we know them. Except for a few highly motivated students, most young people complete school only as a ritual. This pervasive disengagement creates massive problems of crowd control for educators and wastes the time of students and staff members alike.

Second, we must recognize the unfortunate record of traditional efforts to teach a virtually limitless list of fragment-

ed pieces of declarative knowledge — e.g., that the issue of slavery divided the U.S. in the 19th century or that squares have equal sides and 90-degree angles. This enterprise, pursued over the ages as the main task of formal schooling, now actually undermines education. When schools try simultaneously to keep up with the explosion of knowledge and to accommodate the host of social demands placed on them, they cannot possibly give students the opportunity to develop in-depth understanding and the capacity for higher-order thinking that are required for success beyond school. The problems of disengagement and of excessive emphasis on coverage are related, and they exact their most tragic toll on students who, because of low income, cultural background, or lack of social support, do not succeed in schools as they are currently organized.

One of the biggest mistakes we make is the order in which we design the components of the education system. First, we set up an organizational structure; next, we plan the curriculum to fit the structure; and finally, we choose criteria for student success. Not until this last step do we articulate in a concrete way the ultimate educational purpose of the system. But by this point the outcomes are largely predetermined by the organizational structures and curriculum. Thus it should not be surprising that schooling seems so dysfunctional.

Moreover, the restructuring movement is about to perpetuate this error, because it, too, is trying to design organizational structures before clarifying purposes and reaching consensus on the educational ends that organizational structures should serve. For example, most of the talk one hears about school-site management, career ladders for teachers, or schools of choice never mentions how these mechanisms will teach students to write about literature, to reason about scientific phenomena, or to learn important geographic facts.

There is no reason to believe that restructuring will produce favorable results for students unless plans for new structures are guided by a vision of educational outcomes that articulates new standards for student achievement and for teaching. In this article I hope to nudge restructuring in this direction. First, I propose *authentic* achievement as the primary

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goal for students. Then, I advocate the need for *substantive conversation* in teaching, a new standard that is necessary to promote authentic student achievement. Finally, I suggest particular structures for student work that can facilitate authentic achievement and substantive conversation.

**AUTHENTIC ACHIEVEMENT**

The kinds of skills required to earn school credits, good grades, and high scores on typical tests are often considered trivial, meaningless, and contrived — by both students and adults. In contrast, a "restructured" vision of the goals of education seeks to evaluate performance activities that are worthwhile, significant, and meaningful: in short, activities that are authentic.

What criteria help us to recognize authentic forms of academic achievement? Consider the achievements of successful adults — scientists, musicians, business entrepreneurs, politicians, craftspeople, attorneys, novelists, physicians, designers, and so on. What are the characteristics of their work that justify calling their accomplishments authentic rather than contrived and trivial? Can we identify key distinctions between these authentic accomplishments and the work that students complete in school?<sup>2</sup>

People in the diverse fields named above face the primary challenge of producing, rather than reproducing, knowledge. This knowledge is expressed through discourse, through the creation

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of things, and through performances. We do not expect children to attain levels of competence comparable to those of skilled adults, but we do want students to develop in the same direction.

To progress on the journey toward adult competence, students should set their sights on authentic expressions of knowledge. That is, they must hone their skills through guided practice in producing original conversation and writing, through the repair and building of physical objects, through artistic and musical performance. The conventional curriculum asks students only to identify the discourse, things, and performances that others have produced — e.g., by recognizing the difference between verbs and nouns or between socialism and capitalism; by matching authors with their works; or by correctly labeling rocks and body parts. Certainly, the production of knowledge must be based on an understanding of prior knowledge, but the mere reproduction of that knowledge does not constitute authentic academic achievement.

A second defining feature of authentic academic achievement is its reliance on a particular type of cognitive work that can be described as “disciplined inquiry.” Disciplined inquiry, in turn, seems to consist of three features: 1) use of a prior knowledge base, 2) in-depth understanding rather than superficial awareness, and 3) production of knowledge in an integrated (rather than fragmented) form. In highlighting these features, I am not suggesting that students should be expected to make seminal contributions to the academic disciplines, to the professions, or to the arts. However, I am suggesting that students are quite capable of engaging in these forms of cognitive work when they are adapted to the students’ levels of development.

1. *Prior knowledge base.* For new knowledge to be significant and valid, it must be based on substantive and procedural knowledge that has been accumulated previously by workers in the field, who establish facts, vocabularies, concepts, theories, algorithms, and conven-

tions for the conduct and expression of inquiry. However, relying on a prior knowledge base does not always mean agreeing with intellectual traditions or continuing to develop them in a linear fashion. The ultimate point of disciplined inquiry is to move beyond existing knowledge — through criticism and the development of new models that are themselves stimulated by prior knowledge. Most of the cognitive work of schools consists of transmitting prior knowledge to students and asking them to reproduce it, rather than helping them to use it to produce new knowledge.

2. *In-depth understanding.* Disciplined inquiry tries to develop in-depth understanding of a problem, rather than only a passing familiarity with or exposure to pieces of knowledge. One masters prior knowledge not primarily to become superficially knowledgeable about a broad range of topics, but in order to develop complex understanding of a smaller number of issues. Such detailed understanding is particularly necessary for the production of new knowledge. In contrast, many of the cognitive tasks of school ask students to show only superficial awareness of a vast number of topics.<sup>3</sup>

3. *Integration.* To produce knowledge, one must assemble and interpret information, formulate ideas, and make critiques that cannot be easily retrieved from the existing knowledge base. All these activities require the ability to organize, synthesize, and integrate information in new ways. Students are unlikely to succeed at such tasks unless they learn to look for, to test, and to create relationships among pieces of knowledge that otherwise appear unconnected.

The third and final distinction between authentic achievements and traditional school achievements is that authentic achievements have aesthetic, utilitarian, or personal value apart from their value in documenting the competence of the learner. Indeed, this distinction may be the most crucial. When people write letters, news articles, insurance claims, or poems; when they speak a foreign language; when they develop blueprints;

when they create a painting, compose a piece of music, or build a stereo cabinet, they try to communicate ideas, to produce a product, or to make an impression on others beyond the simple demonstration that they are competent. Achievements of this sort have special value that is missing from tasks contrived only for the purpose of assessing knowledge, such as spelling quizzes, laboratory exercises, or typical final exams. In many cases, the cry for “relevance” is simply a less precise expression of the desire that accomplishments should have intrinsic value beyond their value as indicators of success in school.

To summarize, the idea of authentic achievement requires students to engage in disciplined inquiry to produce knowledge that has value in their lives beyond simply proving their competence in school. Mastery of this sort is unlikely to be demonstrated in familiar testing and grading exercises. Instead, such mastery is more often expressed in the completion of long-term projects that result in the creation of discourse, things, and performances of interest to students, their peers, and the public at large.

Why should we aim toward authentic achievement? I suggest at least two compelling reasons, which respond directly to the problems of the conventional curriculum that I mentioned earlier. First, participation in authentic tasks is more likely to motivate students and to sustain the hard work that learning requires. Because authentic work has value beyond the mere demonstration of competence in school and because it permits more comprehensive use of the mind, students will have a greater stake in authentic achievement. Second, authentic academic challenges are more likely to cultivate the higher-order thinking and problem-solving capacities that are useful both to individuals and to society. The mastery gained in school would then transfer more readily to life beyond school and thus increase the efficiency of our public investment in schooling.

To develop organizational structures consistent with this vision, educators will

need to plan "backwards." Beginning with a conception of authentic achievement and of the specific projects that express it, they will need to select appropriate content within the subjects. They will also need to consider the kinds of human interaction — involving teachers, students, and others — that promote disciplined inquiry into the subject. Although I cannot address organizational needs for specific subjects in this article, one aspect of interaction seems critical to authentic achievement in many subjects. This is the need for substantive conversation in instruction, which constitutes a major departure from present practice.

#### SUBSTANTIVE CONVERSATION

When the curriculum is geared toward the goal of authentic achievement, new forms of teaching will be necessary. No longer will it be possible for students to succeed in school simply by listening to the teacher and responding to questions that can be answered in half a dozen words. To complete authentic projects, students will need to formulate and to ask questions, to explain themselves to peers and to adults, and to refine their ideas. While many authentic achievements require capacities other than verbal discourse (e.g., working with one's hands, making mathematical estimations, using aesthetic sensitivities), substantive conversation between the learner and some supportive resource — teacher, peer critic, or other knowledgeable authority — is usually necessary. I emphasize substantive conversation, not because it alone is sufficient to develop all forms of authentic achievement, but because it is usually critical for success in authentic tasks and because conversation is the primary medium through which teachers and students communicate.

Substantive conversation differs from conventional classroom talk, in which the teacher usually has only two purposes (aside from disciplinary ones) in speaking to students: to transmit an item of declarative knowledge (usually a definition or a fact) or to determine whether the student can reproduce that item.<sup>4</sup> The student's goal (assuming that he or she desires to cooperate) is to give the answer that the teacher has in mind. The teacher maintains control in that he or she knows, prior to the interaction, what

pieces of knowledge must be communicated and what answers will be acceptable.

In a substantive conversation, the purpose of talking is quite different. Each person is trying to express a point of view (often in order to persuade the other), to understand why the other holds a particular viewpoint or interpretation, or to arrive at a solution to a problem that neither has previously solved. This last purpose is the most difficult to fulfill, but it is perhaps the most likely to render the work authentic.

In pursuing any of these ends, the teacher uses talk to integrate subject mat-

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ter into the student's meaning system, and the student tries to understand how the teacher's messages might empower him or her in the world. In this sense, each is interested in what the other has to say, the course of the conversation is less predictable than in conventional classroom exchanges, and each participant has some sense of ownership. To fulfill these purposes, substantive conversation requires sustained, continuous talk between two or more people. In school as we know it, the two key participants are usually student and teacher, but students can also learn through conversations with their peers, with other adults, and perhaps with well-programmed computers. Teacher/student conversation should remain central. But to expand students' opportunities for expression and feedback, it will

be necessary to rely substantially on and to support these other sources as well.

What is the connection between substantive conversation and authentic achievement? Begin with the definition: authentic achievement is expressed in discourse, things, and performances that make reasonably complete, integrated statements and that reflect students' production of in-depth knowledge. Then ask the question, How can we instruct students to make such statements? We can show them models of authentic accomplishments of others, and we can give them critical elements of declarative knowledge on which to build. But how will they learn to make their own statements? Substantive conversation is the key. It provides the crucible for practice, for seeking new knowledge that relates to the problem at hand, and for trial, feedback, and revision. In short, substantive conversation forces us to transform declarative knowledge into applied, integrated knowledge.

#### STRUCTURES THAT FACILITATE AUTHENTIC ACHIEVEMENT

The Council of Chief State School Officers divides restructuring into four main categories: school governance (including decentralized authority and school choice), reforming the nature and organization of curriculum and instruction, new professional roles for educators, and accountability (especially new methods of assessment and direct state intervention).<sup>5</sup>

This analysis applies most directly to curriculum, instruction, and accountability. But I believe that, unless the entire restructuring agenda focuses more closely on authentic student achievement and on substantive conversation to attain it, restructuring will produce at best only cosmetic changes in students' education.

Assuming a commitment to these goals, what structural conditions seem necessary to achieve them? The conditions I propose below are in no way exhaustive. They outline certain key conditions under which students would work, but they do not provide structures of school governance, detailed systems of assessment, or specific new structures for the professional development of teachers. My argument has implications for these areas as well, and I do support the need for pro-

viding teachers with working conditions that enable new forms of professional support. But my central concern here is the structure of the instructional environment.

At least four conditions seem essential for students to complete authentic accomplishments: collaboration, access to tools and resources, worker discretion or opportunity for ownership, and flexible use of time.

**Collaboration.** Achievements outside of school often depend on the opportunity to ask questions of, to receive feedback from, and to count on the help of others, including peers and authorities. In contrast, typical school activities require each student to work alone. Working together is often prohibited, because it is seen as a form of cheating. Of course, it is important for students to learn to work on their own and not become too dependent on others. But if opportunities to cooperate are consistently denied, students will not experience a critical process that adults, both expert and novice, consistently rely on for success.

Useful collaboration depends to a great extent on opportunities for substantive conversation, which itself requires special structural conditions. More time will be needed for teachers to communicate with individual students through sustained talk and writing and for students to talk with one another. Substantive conversation also entails major shifts in the roles of teachers and students. Teachers will function more as mentors and coaches, less as depositories of static knowledge to be reproduced. Students will function more as constructors and producers of knowledge. They will rely on teachers for help, but they will not be mere absorbers or consumers of everything the teacher says. Students will also have to take on the new roles of seeking help from and giving help to one another as they learn.

**Access to tools and resources.** When competent people complete significant accomplishments — e.g., writing books, designing buildings, composing music, or reaching collective bargaining agreements — they usually have made use of a variety of printed materials and such machines as telephones, computers, and laboratory equipment. The information they require is generally too vast and too

rapidly updated to commit to memory. In medieval times, before the invention of the printing press, becoming educated required memorizing the contents of key manuscripts, because future access to them was unlikely. But today increasing specialization and the explosion of knowledge create a new challenge. Possession of prior knowledge is critical to disciplined inquiry, but it is now impossible to teach students all the relevant information they will need to complete authentic tasks. The new challenge is to teach students to use tools and resources to find the appropriate knowledge when they need it.

**Discretion and ownership.** Rather than always toiling within the confines of predetermined routines arbitrarily dictated by authorities, the creators of authentic work influence the conception, execution, and evaluation of the work itself. At a minimum this entails exercising some control over the pace and procedures of learning; over opportunities to ask questions and to study topics deemed important; and over constructing and producing knowledge in one's own language, rather than merely reproducing the language of others.

There are, of course, important limits on the extent to which students should control their learning of academic sub-

jects. Certain facts, definitions, concepts, algorithms, and processes of verification must be assimilated according to the standards of the disciplinary fields. But for this kind of learning to be translated into authentic products, students must enjoy some autonomy and discretion in its application.

**Flexible use of time.** The significant achievements of disciplined inquiry often cannot be produced within rigidly specified time periods. Adults working to solve complicated problems, to compose effective discourse, or to design products are rarely forced to work within the rigid time constraints imposed on students, such as the 50-minute class or the two-hour examination.

Standard time schedules stem from bureaucratic procedures designed to manage masses of students and diverse course offerings. Since they have nothing to do with the time requirements of disciplined inquiry, they can reduce the authenticity of student achievement. Achievements in noninstructional tasks, such as journalistic writing, interior design, or medical care, do involve deadlines and time limits. But in such work the schedules tend to be determined more by the nature of the work than by the requirements of institutional management.

The four conditions outlined above



"I never said 'fusion in my bathtub.' I said, 'I've made a few gins in my bathtub.'"

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suggest at least the following changes in the structuring of students' work.

- To stimulate collaboration and the substantive conversation so crucial to it, more time must be allocated to individualized and small-group instruction.

- Students' access to knowledge must be enhanced by greater use of technology (telephones as well as computers) and by opportunities to learn from sources outside of school.

- Students need to exercise discretion and assume responsibility in the planning, execution, and evaluation of their work, which further underscores the need for individualized and small-group work along with assessment that accepts diverse ways of demonstrating competence.

- Instructional time should be organized to permit more sustained, long-term, and in-depth investigation, in contrast to the fixed time slots designed for survey coverage.

- Assessment tasks calling for the production of discourse, things, and performances will require new procedures and in some cases the participation of individuals who are not members of the school staff to evaluate student performance.

Instituting these changes will contribute to authentic achievement. But they alone cannot guarantee it, for ultimately the quality of student achievement will depend on the quality of conversation that students have with teachers and with one

another. For years substantive conversation has been difficult to find in schools, but only partly because of structural constraints. Even if teachers were blessed with more time and much lighter teaching loads, I suspect that substantive conversation would still be rare, because the goals of authentic achievement and substantive conversation also presume major shifts in prevailing conceptions of education. Organizational changes alone will not modify long-standing conceptions of knowledge and deeply socialized habits of didactic teaching that direct most of our educational efforts toward inauthentic forms of mastery.

Just as plans for restructuring should begin with the conditions in which students learn, the next step is to consider the working conditions that teachers need in order to generate substantive conversation. Again, we must not expect organizational structures alone to transform teaching. However, given the complexities of the teaching task, we cannot emphasize enough the need to provide teachers and administrators with sufficient authority, time, and assistance to reflect critically on their practice, to experiment, to fail, and to try again. Beyond enabling teachers to increase the proportion of time they spend interacting with individual students and small groups, we must work to give teachers more opportunity to collaborate, and we must provide for regular, sustained professional development that focuses on the goals of substantive conversation and authentic achievement.

Experiences in restructuring to date reveal three obstacles that dramatize the need for this kind of support. First, teachers, parents, and students who have experienced only the conventional version of education — especially those who have been successful — cling tenaciously to it, even when they have the opportunity to make substantial changes. Faith in conventional practice is fortified by the large proportion of students who do succeed on conventional measures, both in school and beyond. Second, external pressures for district, state, and national accountability, coupled with the need for ways to determine admission to college, continue to sanctify mastery of declarative knowledge as the most important goal of schooling. Finally, the struggle to establish new collaborative roles for

teachers is stressful and time consuming; it drains energy and leaves diminished personal resources for thinking about new forms of achievement and curriculum.

The history of education reform suggests that we have yet to see fundamental change on a grand scale.<sup>6</sup> We might argue that the contemporary sense of urgency and the scope of the current restructuring movement combine to offer a unique opportunity. But to avoid the costly mistakes of previous efforts, we must resist the tendency to institute administrative changes devoid of fresh educational vision. If we keep our sights on the targets of authentic student achievement and substantive instructional conversation, restructuring could form a new chapter in educational history — and one well worth the effort.

1. Albert Shanker, "The End of the Traditional Model of Schooling — and a Proposal for Using Incentives to Restructure Our Public Schools," *Phi Delta Kappan*, January 1990, pp. 344-57.

2. This complicated matter involving controversial educational values has not yet received extensive scholarly attention. Yet it begs for interdisciplinary analysis of the relationship between formal attempts to educate and the ways that human competence is expressed in noneducational settings. The conception I propose here builds on Harold Berlak, ed., *Toward a New Science of Educational Testing and Assessment* (Albany: State University of New York Press, forthcoming); Fred M. Newmann and Doug Archbald, *Beyond Standardized Testing: Assessing Authentic Academic Achievement in the Secondary School* (Reston, Va.: National Association of Secondary School Principals, 1988); John Raven, "Toward a Model of Competence, Motivation, and Behavior and a Paradigm for Assessment," in Berlak, op. cit.; Lauren B. Resnick, "Learning In School and Out," *Educational Researcher*, December 1987, pp. 13-20; and Grant Wiggins, "A True Test: Toward More Authentic and Equitable Assessment," *Phi Delta Kappan*, May 1989, pp. 709-13.

3. A commitment to depth over coverage entails no retreat from liberal education into narrow forms of vocationalism, as some might expect. The effort to concentrate on complex understanding welcomes study of a wide variety of disciplines and paths to knowledge. Reducing the emphasis on superficial exposure implies no necessary narrowing of the curriculum as a whole.

4. This analysis is based in part on the work of Martin Nystrand and Adam Gamoran, "Student Engagement: When Recitation Becomes Conversation," in Hersholt Waxman and Herbert Walberg, eds., *Contemporary Research on Teaching* (Berkeley, Calif.: McCutchan, forthcoming).

5. *Success for All in a New Century: A Report by the Council of Chief State School Officers on Restructuring Education* (Washington, D.C.: Council of Chief State School Officers, 1989).

6. Larry Cuban, "Reforming Education. Again, Again, and Again," *Educational Researcher*, January/February 1990, pp. 3-13. □