Research-based strategies for improving educational quality with limited resources include: (1) leadership by school administrators in making better student performance in the basic skills a goal for schools, (2) increased time on academic tasks, (3) redesign of the instructional program to focus on basic skills, (4) improved teaching practices, and (5) long-term staff development. Additional strategies involve regulatory change--focused on licensing and accrediting standards--and cover four broad elements of the school program: time, curriculum content, teaching materials and technology, and the quality of teachers and administrators. (MLF)
5. Low-Cost School Improvement
5. Low-Cost School Improvement

The Issue

With the real level of fiscal resources for the nation's schools unlikely to go up, education policy makers must find ways to improve education quality with limited and sometimes declining resources. The dollar cost of education has jumped geometrically over the past decade, but prices have leaped even higher. Public demands for quality education in the eighties cannot be met with the expensive education strategies of the seventies. New ones are needed.

Education Quality

In many respects, the education system in the United States is the best in the world. There are many exemplary programs in local school districts across the country. Payoffs from two decades of categorical programs for special populations and one decade of school finance reform are increasingly evident.

Nevertheless, public opinion of the schools has dropped in the past 15 years. Scholastic Aptitude Test scores have been dropping for a decade. National Assessment of Educational Progress data indicate that performance in the higher-order skills has been slipping as well, even though these skills are essential for the emerging information processing society. There is an acute shortage of mathematics, science
and computer teachers who are sorely needed for our new high technology world. And increases in school budgets are being voted down four-to-one in many areas of the country. There is other evidence that quality standards for education are not being met:

- Less time is spent on academic instruction. Nonacademic activities erode student learning time. In Japan, by comparison, students attend school the year around and are assigned two to four hours of homework each night.

- Poor teacher classroom organization and management whittle away the amount of time spent on learning.

- To save money, states and local school districts have shortened both the school year and the school day.

- Curriculum content also has been watered down. The academic challenge and reading level in most textbooks has dropped. Attention to the higher order skills is inadequate. There has been a precipitous decline in English, mathematics, science and foreign language requirements for high school graduation and college entrance. Electives, often not designed to yield some cohesive, substantive whole, have replaced sound core curricula.

- The technology of teaching has not kept pace with modern day requirements. Research on effective teaching has not influenced many schools of education. Teaching practice is remarkably similar to what it was 20 years ago. The potential of microcomputers has been barely tapped.

- The quality of the human capital -- teachers and school administrators -- has deteriorated. The academic capability of those entering the teacher profession has been lessening for more than a decade. Teachers are underpaid, inappropriately or poorly trained, and generally denied real professional status. The organization of schools discourages the collegiality needed for effective teaching. Major inservice training programs are needed to imbue this labor pool with the skills needed for teaching in the emerging information processing, computer society.

The school improvement programs of the sixties and seventies were expensive; they were reform by addition -- new programs, new money, new specialists and new interest groups. They worked, but they required more money.

For the eighties, successful education improvement efforts will have to leverage the funds already in the system. These constraints suggest the focus must be on leadership; setting
new standards for licensing teachers, accrediting schools and admitting students to higher education opportunities; revising inservice training and staff development; and using the results of the effective teaching and effective schools research.

A Knowledge Base

After 15 years of research on school improvement, there is now a consensus on successful strategies for improving student performance in the basic skills, including performance by low-income and heterogeneous students in urban schools. Six elements are listed below:

1. Leadership by school principals, district superintendents and state education policy makers in making better performance in the basic skills a clear strategic goal for schools, districts and states. This does not cost money; it requires intelligence, commitment and courage.

2. Increased time on academic tasks. Academic learning time is the major variable in student performance; more learning time yields improved student achievement. The techniques identified by effective teaching and classroom management research increase academic learning time within the normal school day, and thus are no-cost strategies.

3. Redesign of the instructional program to focus on the basic skills. An instructional program integrated and articulated across both grade levels and programs, and focused on reading, writing, mathematics and other basic skills is fundamental to high student performance in these areas. Instructional content must match district academic goals. Again, this is a low- or no-cost strategy.

4. Improved teaching practices. Effective teaching research, most of which was undertaken in actual classroom settings, has identified those teaching and classroom management functions that are most effective in teaching students basic skills and knowledge.

5. Long-term staff development. Inservice training program designs, including materials and manuals, have emerged from school improvement research and can be used to train teachers in effective teaching and classroom management, to train principals in the knowledge and management skills needed to be instructional leaders in schools, and to create the collegial relationships, cooperative working patterns and sense of efficacy associated with
faculties in effective schools. Since most districts already budget staff development money, this is a low-or no-cost strategy.

5. Successful elements for changed structures in school improvement efforts include:
   - Recognizing individual schools as the most important sites for improvement activities.
   - Setting clear academic goals for student achievement.
   - Vesting control of the classroom improvement process in teachers.
   - Selecting or developing good curriculum and teacher training materials.
   - Using outside consultants from the central district office or state education agency on a long-term basis to work with administrators and teachers.

These elements have been shown to be successful in basic skills instruction. As the definition of "basics" shifts to meet the needs of a more technologically oriented society, these elements should continue to contribute to a successful academic program.

Affordable Policy Options

The above payoffs from two decades of research are major assets in developing affordable school improvement initiatives for the eighties. Additional strategies involve regulatory change, focused on licensing and accrediting standards, and cover four broad elements of the school program -- time, curriculum content, teaching materials and technology, and the quality of teachers and administrators.

Time. To increase academic learning time for students, policy makers can:
   - Maintain or extend the school year or school day.
   - Encourage reduced administrative intrusions into the instructional day, lessen the time between class periods and shorten time for lunch, recess and other nonacademic activities.
   - Promote the use of techniques from the effective teaching and classroom management research that increase time-on-task in elementary schools.
• Require more academic courses for credit in high schools -- reduce credits now given for work or other nonacademic experiences.

• Require increased homework for students at all levels.

Curriculum. To increase the academic and substantive content of the Instructional program at all levels, policy makers can:

• Make reading, writing, mathematics, computer literacy and other important skills the focal elements of the elementary school instructional program.

• Require more formal courses in high school, reduce the number of electives, and encourage substantive sequence and cohesion in instructional programs.

• Insure that all courses give substantial attention to the higher order skills of summary, application, synthesis, problem-solving, implication, inference and creativity. Bring set theory and logic back into mathematics. Require speaking and reading literacy in a foreign language. Add computer science and programming to the curriculum.

• Raise entrance requirements for public colleges and universities toward more formal, academic course work. Substitute specific academic proficiencies rather than grade-point averages for college admission.

Materials/Technology. To enrich the academic challenge of textbooks and other teaching materials and to use the results of research and the potential of computers to improve classroom teaching, policy makers can:

• Upgrade the standards for textbooks approved for classroom use.

• Provide for the use of computers when appropriate to supplement the teaching process, and apply quality standards as stringent as those for textbooks to computer curriculum software. Computerized instruction for remedial mathematics has been highly successful.

• Provide guidelines for selecting appropriate hardware and software. An "Apple" in every classroom is neither appropriate nor cost effective!

Staff. To recruit and maintain a teaching and administrative staff with the capacities for high quality instruction, policy makers can:
Devise ways to increase the numbers and quality of persons entering and staying in the teaching profession, including salary differentials for mathematics, science and computer teachers if necessary.

Improve the professional character of the teaching profession -- raise salaries, require a more rigorous training and intern or apprentice period and restructure the schools from bureaucracies to collegial organizations.

Tighten inservice training requirements for elementary school teachers. The focus should be on effective teaching techniques. At the secondary level, a major program is needed to train senior staff in current mathematics, science and computer substance and to retrain many remaining mathematics and science teachers.

Encourage the selection of principals with the substantive knowledge and management skills needed to be instructional leaders in schools.

Improving schools with limited resources is a challenge that can be met. More money would enable more progress to be made. But better use of existing funds and current knowledge are possible and desirable in these days of tight budgets.

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