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ABSTRACT

Progress made by southern states in meeting the need for quality in education is described, and priorities for further actions are identified. In 1981 the Southern Regional Education Board (SREB) offered 25 recommendations to move the South beyond minimum levels toward quality education. Major progress was made with regard to the following: raising high school academic standards and graduation requirements, raising college admissions standards, tightening teacher selection standards, and achieving college-high school cooperation toward mutual objectives. One priority for the future--improving the quality of teachers beyond minimum standards--may be achieved through: rewards for excellence, teacher education programs, teacher certification, reciprocity agreements, and continuing education of teachers. Additional priorities that need to be addressed are: selecting principals who are leaders, strengthening mathematics and science in the schools, and preparing youth for work. Units of high school work recommended or required for college admission in seven states are identified for: Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, and South Carolina. Information is included on policies on teacher testing and assessment in the 14 SREB states, and 20 additional recommendations are offered. (SW)

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Meeting the need for quality: action in the South

Progress Report to the Southern Regional Education Board

by its

Task Force on Higher Education and the Schools

June, 1983

Foreword

At its 1981 annual meeting, the Southern Regional Education Board endorsed the recommendations for educational reforms made in *The Need for Quality*, the first report of its Task Force on Higher Education and the Schools. The Board also extended the tenure of the Task Force for two years. The present report is our concluding assessment of regional response to the 1981 recommendations and an affirmation of priorities for further actions which we urge the educational and political leadership of the Southern states to pursue with all possible speed.

Our second report, *Meeting the Need for Quality: Action in the South,* documents real progress toward quality. It is an optimistic report, because the course for the future that it charts is offered in the knowledge that there are many public-spirited people in the Southern states who now recognize the critical need for restored momentum in educational progress at all levels—from kindergarten to graduate study. Concerted implementation of steps spelled out in our first report is reported across the region.

It should not escape the reader that "Major Progress"—the first part of this, our second, report—is a somewhat briefer section than "Priorities for Further Action." Barriers and special interests which impede major progress could be recited at length in explanation of failure to achieve more rapid realization of educational improvement; the only barrier which we would single out is the one most subject to correction by men and women of good will—namely, that of apathy and inertia.

We applaud the initiative of the Southern Regional Education Board in promoting strong ties between higher education and the schools, based on a common goal of quality. We believe that throughout the United States the determination to devote time, effort, and resources toward resolution of our educational woes is approaching an unparalleled level. We were

heartened, as we concluded preparation of this report, by the call for excellence in the report of the National Commission on Excellence in Education, *A Nation at Risk: The Imperative for Education Reform*. The national appeal to put education on the move again is a challenge that will support the region's efforts.

S. John Davis, *Superintendent of Public Instruction*, Virginia; *Task Force Chairman, 1982-83*

Martha Layne Collins, *Lieutenant Governor*, Kentucky
William H. Drummond, *Professor*, College of Education, University of Florida
H. Lynn Greer, Jr., *Vice-Chairman*, State Board of Education, Tennessee
Elizabeth G. Helm, *Member*, State Council of Higher Education, Virginia
J. B. Jones, *Professor*, School of Education, Texas Southern University
Milton Kimpson, *Executive Assistant to the Governor for Education; Health and Human Services*, South Carolina
William G. Monahan, *Professor*, College of Human Resources and Education, West Virginia University
Gwendolyn B. Mundy, *Director of Elementary Curriculum*. Hall County School System, Georgia
Saralyn B. Oberdorfer, *Former member*, State Board of Education, Georgia
John A. Peoples, Jr., *President*, Jackson State University, Mississippi
Cecil J. Picard, *State Senator*, Louisiana
Frank C. Robey, Jr. *Staff Director*, School Management Data Services, Baltimore City Public Schools, Maryland
Ray S. Smith, Jr., *Former member*, Arkansas House of Representatives, Hot Springs, Arkansas
Donald J. Stedman, *Associate Vice President for Academic Affairs*, University of North Carolina
Wayne Teague, *State Superintendent of Education*, Alabama

Kenneth H. MacKay, Jr., Ocala, Florida; *Task Force Chairman, 1981-82* (resigned upon election to U.S. House of Representatives)

Meeting the Need for Quality

Two years have elapsed since the Southern Regional Education Board endorsed 25 recommendations of the Task Force on Higher Education and the Schools to move the South beyond minimum levels toward quality education.

The recommendations came at a time of widespread recognition that improvement in academic standards at all levels was imperative. Various Southern states have moved decisively on a number of those recommendations, even in the face of severe budgetary constraints. There has been progress toward quality, but much remains to be done.

Region gaining momentum in educational reform

The Southern governors and many legislators have played a major role in focusing on the improvement of education as the underlying prerequisite for economic development.

The region's momentum during the last two years in strengthening high school graduation requirements, raising college admissions standards, and mandating minimum requirements for teachers has propelled it to the forefront of what is proving to be a nationwide movement. A new spirit of cooperation, with joint action by boards of education and higher education, has characterized many of these moves. A commitment to higher academic standards has been demonstrated. The full realization of these objectives, however, demands persistence.

The initiative for educational improvements shown by state and local leaders across the region has been impressive. For example, several states have enacted programs to increase the number of well-prepared mathematics and science teachers, well before Congress began serious consideration of federal assistance on this problem. Reforms resulting from state, local, and institutional initiatives can bring about lasting, fundamental change; they do not have to be superimposed at the national level.

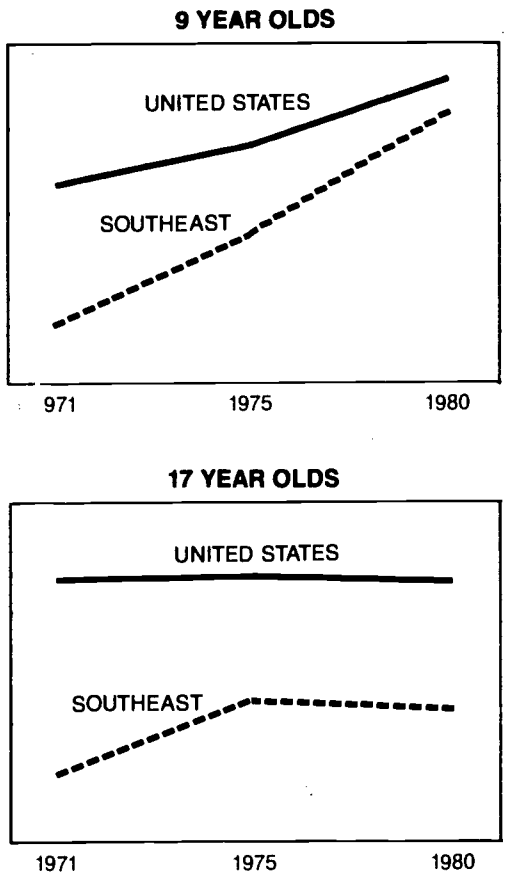
Yet, the task ahead is enormous

However, if education in the South is to match the region's ambitions for economic development, the task ahead is enormous. In many areas the South still lags in matters of educational achievement. Southerners are still less likely to attend schools, whatever the level, and their achievement scores on tests fall below national norms. The average high school dropout index for the

region is 35 percent, well above the 28 percent nationally. While results over the past decade on the National Assessment of Educational Progress (NAEP) show improvement in reading for all age groups in the South, and in overall mathematics for nine and thirteen-year-olds, all groups still lag behind the nation (see Figures 1 and 2). The slight narrowing of the gap between the South and the nation is encouraging. But a lingering concern is that in each tested

Figure 1

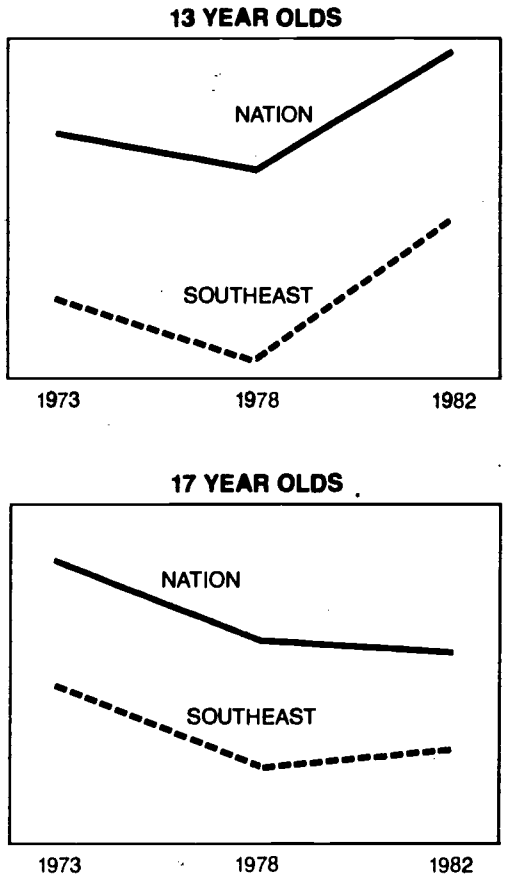
Reading Scores on National Assessment of Educational Progress United States and Southeast*, 1971 to 1980



*Scores for individual states not available; Southeast does not include Maryland and Texas.

Figure 2

Mathematics Scores on National Assessment of Educational Progress United States and Southeast*, 1973 to 1982



*Scores for individual states not available; Southeast does not include Maryland and Texas.

subject—reading, mathematics, and science—the ability of secondary students across the nation to answer questions involving higher order thinking skills has declined. These trends have extremely negative implications for a society that will depend on technological applications for economic growth.

With this report the SREB Task Force on Higher Education and the Schools concludes its assignment, encouraged in the knowledge that SREB will continue as part of its ongoing program

a major effort to improve quality through joint efforts by higher education and the schools.

This report discusses issues on which major progress has been made, and others judged to be priorities for further action, as indicated by the following report card on the South's road to quality.

Report Card: The Road to Quality

Major Progress

Raising High School Academic Standards and Graduation Requirements

Raising College Admissions Standards

Tightening Teacher Selection Standards

Cooperating Toward Mutual Objectives—Higher Education and the Schools

Priorities for Further Action

Improving the Quality of Teachers—Beyond Minimum Standards

- Rewards for Excellence
- Teacher Education Programs
- Teacher Certification
- Reciprocity Agreements
- Continuing Education of Teachers

Selecting Principals Who Are Leaders

Strengthening Mathematics and Science in the Schools

- The Curriculum
- The Teacher Shortage

Preparing Youth for Work

- Vocational Education in the High Schools
- Vocational Guidance

Major Progress

Reforms with lasting impact on educational quality usually involve the curriculum. *The Need for Quality* addressed this vital area by recommending concerted action by state boards of education and of higher education (1) to tighten the high school curriculum for all students, and (2) to raise college admissions standards, thereby sending a message to college-bound students to pursue a rigorous high school program. The actions on both fronts are quite encouraging, and demonstrate a commitment to raising academic standards generally.

Higher expectations lead to improved student achievement

Actions by schools and colleges to raise academic standards signal a growing awareness that higher expectations lead to improved student achievement. They also underscore a commitment to emphasis on instruction as the major priority. This in turn may lead to stronger demands for more rigorous academic schedules—a longer school day or year, fewer extended vacations and recesses for campuses.

Raising High School Academic Standards and Graduation Requirements

States have moved forthrightly during the past two years to raise high school graduation requirements. In 1980, the region's norm was 18 units required for graduation; today, most Southern states require at least 20 units. Half the states included only one year each of high school mathematics and science in 1980; today,

two years of study in each of these subjects is the usual standard in the region. Some states have moved to require three years of mathematics. This does not mean that all students must take identical mathematics courses, but more will be required of each student, depending on the program pursued.

The increased number of units required for graduation is being accompanied by provisions that high school students spend a full day in school, ending the practice in many schools of seniors attending only a few hours per day. Specific definitions of what is recognized for credit in the major subjects have been incorporated into the required high school curriculum.

Higher academic standards for college-bound students

Some Southern states are moving toward different high school diploma requirements for students completing a college preparatory or honors program. For these students a higher number of units is required for graduation, including at least three years of mathematics and, in some cases, a foreign language. However, the strongest incentive for college-bound students to take a more rigorous high school curriculum comes not from a differentiated program enunciated by the school system, but from tighter college admissions standards.

The basic skills tests required for high school graduation, so widely instituted during the past few years, are generally acknowledged to be minimum competency examinations set at eighth and ninth grade levels. Passing rates often approach 100 percent, and correctly so; but that is not a significant measure of quality improvement. Rigorous academic standards, beyond minimums, that result from statewide requirements, and in some cases even more stringent local rules, are a welcome step toward quality education for all students in the secondary schools.

Current tests are truly minimal

The need for continued attention to academic standards by secondary schools is underscored by test results. The 1982 national average Scholastic Aptitude Test (SAT) scores, while up slightly over the previous year, were still eleven and seven percent below the verbal and mathematics scores of 1963, before the drop began. On the American College Test—which is widely used in seven Southern states—43 percent of the students in the South scored below 16 (out of a possible 36) in 1981; in several states, 15 is the minimum for admission into teacher education programs. Students who score at these low levels generally are considered to require remediation before they can pursue college-level courses.

College-bound students in the South have scored somewhat below the national average on scholastic achievement tests. Equally

distressing is the fact that the region also is not nurturing the full potential of its high achievers. In 1982, 1.18 percent of the nation's high school seniors attained the status of National Merit Scholars; only one Southern state equaled this national percentage rate. For seven Southern states, the percentage is less than one-half the national rate.

The need to challenge bright studerts

Recent establishment of special full-time residential or summer high schools and programs demonstrates a growing commitment to challenge students to their intellectual capacities.

While the region as a whole is making strides, individual states are at different stages. In one state, recent emphasis has been on the establishment of statewide kindergartens—recognizing that early childhood education is the foundation underlying all else. In another state, the current emphasis is on development of the college preparatory curriculum, including foreign language study, to be offered in each school district.

The following recommendations are directed toward raising high school academic standards:

1 State and local boards of education should continue efforts to implement higher standards in the curriculum for all high school students.

2 States that have not already adopted more rigorous requirements for high school graduation should do so now.

Raising College Admissions Standards

The greatest improvement of academic standards results when both secondary schools and colleges raise their levels of expectation. The most convincing message to college-bound students for taking a rigorous high school program comes when colleges forthrightly emphasize that certain requirements shall be met before students

can be admitted. During the past two years, seven of the state higher education boards in the region have taken such action (see Table 1).

The general direction of these actions is to specify that students shall have completed four years of English, three years each of mathematics, science, and social studies, and in some cases, two years of foreign language studies. The new standards include specifications about the subject matter to be included in these units. For example, the prevalent requirement for mathematics is algebra I and II and geometry, with trigonometry recommended. Science courses must cover both biological and physical sciences and include laboratory components.

Statewide actions to strengthen college admissions standards

Of the seven statewide actions regarding high school preparation for college admission, standards in Florida, Kentucky, Maryland, and Mississippi are mandatory, although they are being phased in to allow sufficient time for curriculum changes to be implemented. In Louisiana (which is under a court decree of open admissions) and in Georgia, the standards are only recommended, rather than mandatory.

In South Carolina, final action rests with the individual institutions' Boards of Trustees. Likewise, in other states where higher education coordinating agencies have limited authority, responsibility for establishing higher admissions standards rests with leadership on the campuses.

Individual colleges are tightening admissions

Many institutions in the region have tightened admissions standards. The University of Tennessee raised its mathematics requirement to two years. The University of North Carolina at Chapel Hill now requires completion of a college preparatory curriculum that includes foreign languages. The University of Alabama has adopted a "core curriculum" for all students that will include two semesters of a foreign language or computer language. The University of Texas at Austin now requires a minimum SAT score of 1100 for applicants who are not in the upper 25 percent of their high school class. Such actions by "flagship" institutions to raise their standards could have a ripple effect elsewhere in their respective states. The danger exists, however, that declining or fluctuating enrollments will discourage some colleges; in some instances, changes in enrollment-driven funding formulas will be necessary inducements toward tighter admissions standards.

Generally, state and institutional actions to tighten admissions standards have centered on more rigorous high school preparation,

Table 1
Units of High School Work Recommended or Required for College Admissions

	English	Mathematics	Science	Social Studies	Foreign Language	Other
Florida Board of Regents Required—Effective Immediately	3	2	2	2		A
Georgia Board of Regents Recommended—Effective Immediately	4	3	3	3	2	B
Kentucky Council on Higher Education Required—Effective Fall, 1987	4	3 (+1*)	2 (+1*)	2	*	C
Louisiana Board of Regents Recommended—Effective Immediately	4	3	3	3	3	D
Maryland Board of State Colleges and Universities Required—Effective Fall, 1989	3	3	2	4		E
Mississippi Board of Trustees State Institution of Higher Learning Required—Effective Fall, 1986	4	3	3	2½	2*	F
South Carolina Commission on Higher Education Recommended for implementation by individual public senior colleges by Fall, 1988	4	3	2	3	1*	G

* Extra units recommended

Notes: Some of these requirements will not be enforced until students currently in the ninth grade have graduated. Required courses are generally specified: for example, algebra II, chemistry, biology, United States history.

A. In Florida, the State University System requires three additional electives within the five major college preparatory areas. In 1986-87, the requirement will be four years of study in English, three years in mathematics, and three years in natural science, plus four additional electives in the college preparatory areas.

B. In Georgia, the following additional courses are also strongly recommended: trigonometry, an additional laboratory course in science, a third course in a foreign language or study in a second foreign language, fine arts (art, dance, drama, music), computer technology, physical and health education, and typing.

C. Kentucky's universities can exempt up to 20 percent of the freshman class from the requirements. Extra units are recommended in computer science and the arts.

D. Louisiana's Task Force report also recommends 2 units in physical education, 1 unit in the arts, and 4½ units in electives. The report specifies the recommended content for each course and suggests the competencies the students should demonstrate. A "Free Enterprise" course (½ unit) is also required. Also recommended are comprehensive semester examinations, using the Preliminary Scholastic Aptitude Test (PSAT) for diagnosing academic preparation, and that students take one unit of typing.

E. Maryland's state colleges and universities allow a small percentage of students to be admitted who are not prepared for college work, but no college credit is awarded for remedial work. The University of Maryland has also raised its requirements to 4 units of English, 3 units of mathematics, and 2 units of laboratory science.

F. Mississippi's Board of Trustees recommends that college-bound students take a computer science course and gain a level of typing proficiency.

G. South Carolina's proposed prerequisities include an additional unit of advanced mathematics or computer science or a combination of these; or one unit of world history or of international relations.

rather than on higher SAT or ACT scores. In some systems (the University of Maryland, for example) SAT requirements have been raised but tied to high school grade-point averages—a high average offsetting a low SAT score. In many institutions a percentage exemption on admissions standards is allowed for students who may have the potential for college-level work but who need remedial help.

Florida has developed a college-level academic skills test which lower-division college students will have to pass before they may proceed to upper-division coursework. In Georgia, the Board of Regents' writing test has long been a requirement for graduation.

This recommendation is addressed to strengthening college admissions requirements:

3 While progress on raising college admissions standards is heartening, other states and institutions, including many in the private sector, will need to raise admissions standards to improve quality. States should direct close attention to serious barriers to improving admissions standards, such as inflexible enrollment-driven funding formulas.

Tightening Teacher Selection—Minimum Standards

Teacher tests plus performance evaluation

Adherence to minimum standards for beginning teachers includes testing competency in the content of teaching assignments, as well as assessment of classroom performance.

The Southern states were well on their way in 1981 to adoption of mandated certification tests (after completion of the college program) for beginning teachers. When *The Need for Quality* was issued, four states were already using the National Teacher Examinations (NTE) standard, three states had developed their own state tests, and the others were at various stages of

deciding which test and what cut-off scores to adopt. Today, all but two states are using certification tests, and they too are considering such a requirement (see Table 2).

Two states have raised, or are in the process of raising, cut-off scores on their teacher certification tests, in recognition of the need to elevate minimum requirements if standards are to be meaningful.

Tests screen candidates for teacher education

It is preferable to test competency on basic skills of prospective teachers early, rather than after they have graduated. Presently 12 SREB states have instituted, or have proposed, minimum scores on a variety of aptitude or basic skills tests for admission into teacher education programs.

Three states in the region now have policies to terminate, or place on probation, teacher education programs that graduate large numbers of students who are unable to pass teacher certification tests.

Table 2
Policies on Teacher Testing and Assessment in the SREB States

	Statewide Minimum Test Standards for Entrance into Teacher Education	Statewide Testing for Certification	Statewide Performance Assessment of Beginning Teachers
Alabama	yes	state tests	no
Arkansas	no	NTE	no
Florida	yes	state tests	yes
Georgia	no	state tests	yes
Kentucky	yes	to be selected (1983)	yes (1984)
Louisiana	yes	NTE	under study
Maryland	proposed	proposed	proposed
Mississippi	yes (Spring 1983)	NTE	no
North Carolina	yes	NTE	yes
South Carolina	yes	NTE or state test	yes
Tennessee	yes	NTE	no
Texas	yes (1984)	to be selected (1984)	no
Virginia	yes	NTE	yes (1986)
West Virginia	proposed	proposed	proposed

Minority Representation

The implementation of certification tests to assure that teachers have achieved minimum competencies in their subject fields has been accompanied by substantially higher failure rates for blacks than for whites. This problem stems in part from the fact that fields other than education are attracting larger proportions of black students than previously.

Action needed to assure adequate supply of black teachers

As long as teacher turnover rates are relatively low, the current decline in the number of newly certified black teachers will not have a marked effect on black representation in the teaching force. In the long run, however, such representation will suffer and will result in an unacceptably low number of black teachers. This calls for concerted action by states and by all institutions on their general education and teacher training programs. Predominantly black colleges have long been a major source of new black teachers. They are increasingly aware of the special challenge they face to upgrade student performance in their teacher education programs. In one response, selected predominantly black colleges have joined an SREB-coordinated project to strengthen the general education component of their curriculum. The project seeks to improve the ability of students to think analytically by assisting faculty in construction and utilization of tests that will help develop analytical problem-solving skills.

This recommendation is concerned with improvement of the teacher selection process:

4 SREB should continue to foster and monitor changes in admissions standards for teacher education programs and results on teacher certification tests. with special concern for assuring an adequate supply of black teachers.

Improving the Quality of Teachers Beyond Minimum Standards

Minimum standards only a beginning

Minimum standards for teacher selection constitute only the beginning of a strategy to improve the quality of teachers. The mathematics section of a basic skills certification test in place in one Southern state is openly acknowledged to be at the eighth grade level. This means that teachers are tested for certification at scholastic levels below those of some of the students they teach. For many teaching fields the cut-off scores established by states in the region on the National Teacher Examinations do not exceed the bottom quarter of the national distribution of scores. For secondary science teachers in one state, the score needed to pass is exceeded by 95 percent of all who take the test nationally.

The most academically gifted young people have never been attracted into teaching in large enough numbers, but talented students, especially women, have traditionally entered education in numbers sufficient to staff the schools. In the Sixties, one out of six college freshmen indicated teaching as a career goal; now, only one in 20 makes this choice, and those who do tend to be among students who rank lower in test scores than other majors. Policies that focus only on minimum competencies will not reverse this trend.

Getting ou standing teachers into classrooms

Rewards for Excellence

The issue of how better quality students are to be attracted into teacher education and retained in teaching careers is tied closely to salary levels. According to the National Education Association, the 1982 U.S. average salary for all teachers (including experienced ones) was $18,976. Thirteen of the Southern states fell below the national average, ranging from 26 percent below in Arkansas to eight percent below in Texas. Maryland is the only SREB state that

Salaries for teachers still lower than national average

exceeds the national average—by 10 percent. When beginning salaries offered to baccalaureates in business administration average $17,500, starting salaries at the $13,000 level are not going to attract many additional superior individuals into teaching, nor will the trend of a 50 percent decline in teacher education enrollment be reversed. Nor will salary schedules that offer no further raises after 15 years of service encourage the most able persons with other options to stay in teaching.

The Southern states have made some progress, albeit slowly, in narrowing the gap between teacher salaries in the region and in the nation. For the last decade, average salaries in the region rose 106 percent as compared to 96 percent nationally.

Rewarding excellent teachers

Current initiatives on improvement of teacher salaries focus on rewards for excellent teachers. In Tennessee, the governor has proposed augmenting salaries for "master" teachers and administrators by as much as $7,000. The plan, to be studied by the legislature for a year, calls for four career steps for teachers, with "senior" and "master" teachers at the top of the ladder. Some 25 percent of all full-time certified teachers would be eligible for "senior" status; 15 percent would be eligible for the "master" level. The selection along the career ladder would not hinge on credentials but on performance, and teachers would have a large role in selecting the "senior" and "master" teachers.

The notion of rewarding excellence in teaching as an incentive to attract and retain the best is gaining attention in several states and school districts. The common threads that mark these moves are policies (1) involving teachers in the selection process, (2) utilizing the selected "master" teachers in training other teachers in the system, possibly through 12-month contracts, and (3) retaining superior teachers in classrooms.

These recommendations are offered on improving the quality of teachers:

5 Financial incentives should be established to reward outstanding teachers and to facilitate recruitment and retention of highly talented and motivated individuals. A renewed focus on excellent teaching will help to restore the honor of the profession—an important intangible reward that has eroded in recent years.

6 States should provide loan-scholarships to attract academically superior college students into teaching, with special attention to the recruitment of minority students.

Teacher education programs are besieged from many directions. Critics have questioned the rigor of what is offered in education courses. Attempts to improve the situation are frustrated by reduced funding as enrollments have declined and by tenure provisions. These conditions call for bold and courageous action—action that may best begin with deans of education. This includes thorough evaluation of the courses that are offered, using criteria of academic excellence, eliminating redundancy in material covered by successive courses, and applying or developing research findings on effective teaching and classroom management.

Presidents must provide leadership to improve teacher education

To the extent that colleges of education take forthright steps in these directions, institutions need to respond more fully to the special needs of education programs. The prevalent university reward structure, which tends to neglect performance other than research, inhibits the colleges of education from greater involvement in and service to the schools. While research may deserve the highest priority status in the reward structure for a few excellent centers of educational research, this is not the case for most institutions.

The student teaching experience is a pivotal aspect of the professional education sequence. Field experiences leading up to student teaching should come early during the education major's program. The "clinical" approach, which *applies* theories of learning and teaching, needs to be injected throughout the pedagogy curriculum, rather than being limited to student teaching courses.

Strengthening general education to improve quality of teaching

Improving the general education component of teacher preparation is an integral part of the strategy to improve the quality of teachers. Failures on teacher certification tests demonstrate that weaknesses center in those areas addressed by the general education portion of a college program. While all college students should obtain a broad-based liberal education, including college-level language and mathematics courses, it is especially important that education majors obtain a solid foundation.

Community colleges provide the general education component for many prospective teachers. These institutions should be included in efforts to strengthen the fundamental competencies of education majors.

Lasting change requires college leadership

The Need for Quality stressed the importance of joint action by the state education and higher education agencies to review and improve teacher education programs. While clearly there is a need for state agency monitoring in this area, lasting and meaningful change will require leadership from within colleges and universities. The gravity and urgency of the matter require the leadership of college and university presidents, with involvement of both arts and science and teacher education faculties.

The following recommendations are made on improving teacher education programs:

7 College presidents should provide leadership, including the coordination of efforts by faculties in the arts and sciences and in education, to improve teacher education programs. Institutions, including community colleges, should closely examine the content of the general education courses education majors take, to assure a strong foundation for professional preparation.

8 College campuses should create incentives for closer involvement of faculty in the affairs of the schools.

Teacher Certification

Certification unduly rigid

Reform of the certification system entails removal of unduly rigid and unnecessary requirements, as well as inclusion of provisional certification for all beginning teachers until their performance has been evaluated. (Some states use the term "probationary" instead of "provisional" for teachers who have not been granted regular certificates.) *The Need for Quality* suggested that arts and

science graduates be certified for secondary school positions on the same provisional basis.

In 1981, Georgia was alone in the region with a uniform statewide system to evaluate the on-the-job performance of beginning teachers, with provisional certification until demonstration of satisfactory performance. Similar systems have been instituted in three additional states and are under study or development in five other states.

Arts and science graduates as teachers

Little attention has been given to changing certification to accommodate arts and science graduates by issuing them provisional certificates on the same basis as education program graduates. While most states do employ such majors under an emergency certificate, which may entail lower pay, only Virginia has moved directly on this matter. In that state, arts and sciences graduates may be provisionally employed in teaching jobs, just as education majors are, and then must complete nine hours of education courses or an alternate program to be approved by the State Department of Education. In Georgia, a special task force on teacher education has recommended to the State Board of Education a more flexible process for liberal arts majors to enter teaching. These majors would obtain a professional certificate upon admission to a specially designed master's program. A task force in Louisiana, composed of public school and higher education personnel, has proposed certifying mathematics and science majors to ease the shortage of teachers in those areas.

Too many certification fields

The complexity and rigidity of certification rules have not been addressed forthrightly by most states in the region. These rules generally include extended arrays of certificate fields that were created over the years and reflect, in part, the fragmentation of the high school curriculum during the Sixties. The current renewed focus on core subjects in secondary education may well give states the opportunity, and a compelling reason, to rationalize the variety of certificates they issue. For example, if English composition and literature are to constitute the basis of the required English credits during the four years of high school, the state's certificate fields should reflect that emphasis, rather than a proliferation of subfields, such as drama, speech, or journalism.

There may be a greater danger of assigning teachers out-of-field when many of them are highly specialized than when their teaching fields represent the major divisions of the high school curriculum. On the other hand, there are subjects that do require specialized preparation. An individual prepared for a general

science teaching certificate is unlikely to have sufficient depth to teach physics. The desirability of broad-based certificates must be balanced against the need for specialists.

This recommendation is directed to the teacher certification process:

9 As a step toward simplifying the complexity of certification, states should reduce the variety of subjects for which they issue certificates, based on a review of the curriculum in the schools, including the extent to which specialists in various subfields are assigned in-field and out-of-field.

Reciprocity on Teacher Certification Tests

Need for a common teacher certification test

The recommendation in *The Need for Quality* for a "common test" for teacher certification reflects concern over the cost of developing additional new state tests, as well as the impediments to interstate migration that result if teachers who have taken a test in one state are then required to take a different test when they move across state lines.

The only addition of state-developed tests in the past two years has occurred in a state where such tests are used for teaching fields that are not included in the National Teacher Examinations.

Reciprocity agreements that recognize other states' tests would facilitate the migration of teachers. Toward this objective, SREB has completed a study on the relationship between test scores on a state-developed test and on National Teacher Examinations. The results show that the same individuals are likely to be eliminated using either test. To date, no states have taken action to implement crosswalks between tests to facilitate the migration of teachers. Teacher certification reciprocity agreements, which some Southern states have signed, recognize teacher education programs approved

by other states, but do not address the problem of certification tests differing across state lines. The Southern Governors' Association has endorsed the concept of interstate reciprocity for teacher certification tests.

This recommendation is made in support of a common teacher certification test:

10 States should move to a common teacher certification test. Those that use a different test should develop crosswalks with the common test to facilitate the interstate movement of teachers who have already taken the common test.

Continuing Education of Teachers

Progress has been more evident on assuring minimum standards for beginning teachers than on improving the quality of teachers already employed. It is easier to mandate minimum tests for the employment of new teachers than it is to improve the continuing education of teachers. Yet, the latter strategy is perhaps more crucial now because of relatively low turnover rates and, consequently, the small number of beginning teachers.

Need still urgent for effective continuing education

The recommendations outlined in *The Need for Quality*, though not generally implemented, still represent sound directions for improvement in the continuing education of teachers.

Staff development activities should be counted for the purpose of scheduled salary increases and recertification, provided (a) the activities reflect a local staff development plan that addresses specific objectives of the local school administration and reflects identified educational needs of the school district; (b) the local plan has been evaluated and approved at the state level; (c) the local plan has been formulated with substantial involvement of teachers.

The Conference of Southern Graduate Schools took an encouraging step at its 1983 session by endorsing a recommendation that the graduate courses teachers complete for recertification purposes

Admissions standards into graduate education programs

should be relevant to the teacher's current assignment. Also, the Conference approved a recommendation that admissions standards into graduate education programs should match an institution's standards for other advanced degrees. To the extent that teachers may not meet such standards, they would be admitted and earn recertification credits on a pass-fail basis, which, however, would not count toward a graduate degree. Such policies, if implemented by individual institutions, would sharpen the focus of graduate education in the improvement of teaching in the schools, and would add prestige to advanced degrees in education.

The following recommendations are offered to improve continuing education for teachers:

11 Institutions should insure that admissions requirements into graduate programs in education match their standards for other advanced degrees.

12 States should require that graduate courses taken by teachers for recertification are relevant to their teaching assignments.

Selecting Principals Who Are Leaders

Generally speaking, the success or failure of a public school depends more on the principal than any other single factor.

Selecting principals as educational leaders

In pursuing the Task Force recommendation that SREB consider ways of improving the preparation of principals, it became evident that improved *selection* of principals may be the most important element. Principals who are strong leaders establish a positive intellectual climate in their schools, and motivate teachers and students toward well-defined educational goals. School systems need to define the role of principals so that they might realistically function as instructional leaders.

Internship should be part of principals' training

Although it may be possible to train some individuals in certain components of leadership, more attention should be given in the selection process to the assessment of the behavioral attributes that characterize strong principals, beginning with admission to graduate schools. Some school districts have adopted a variety of means to discover potential leaders: (1) the services of the National Association of Secondary School Principals' Assessment Center Project, (2) the use of structured interviews conducted by carefully chosen selection committees, including lay members, and (3) the use of internship or assistant principalship trials to select the strongest candidates for principals' openings. A statewide effort to use the assessment center concept is being launched in South Carolina. Although all teacher education programs include a student teaching component, in many states the educational administration programs for training principals do not require an internship.

Many principals already on the job could improve their performance through in-service assistance. One-shot workshops on various managerial topics are unlikely to make a fundamental difference. Quality staff development for principals may entail on-the-job coaching. The identification in Florida of distinctive competencies associated with successful principals may be a promising direction for shaping effective staff development programs for principals.

These recommendations are directed to selection of school principals:

13 The assessment of behaviors which characterize effective principals should be used as a part of the selection process, beginning with candidates for graduate educational administration programs and extending to the selection of candidates for vice-principal and principal openings.

14 An on-the-job internship should become a requirement of all educational administration programs that train principals. Such an internship should provide true and prolonged exposure to the work patterns of a successful principal, and should be jointly designed and administered by schools and colleges.

The Curriculum

Science and mathematics education should develop individuals who understand how science and technology influence their personal and working lives. This will require greater emphasis on, and improved presentation of, science and mathematics in both elementary and secondary schools.

National testing reveals that students are improving their scores on those parts of examinations which cover rote memorization and drill, but at the expense of higher level reasoning and problem-solving skills. Students often take nine years of arithmetic emphasizing skills that can be easily accomplished with a hand-held calculator. Science, if taught at all in the elementary schools, usually lacks hands-on activity, and fails to stimulate the interest of children at that age. Yet, the prevailing message is that problem-solving abilities in both science and mathematics will become increasingly important to individuals.

Content of mathematics and science courses

Although most Southern states have increased the number of high school mathematics and science units required for graduation, so far there has been no widespread examination of the *content* of science and mathematics courses. While several states, including Louisiana and Texas, have carefully detailed the necessary content of courses for students in college preparatory programs, there has been no concerted effort to improve mathematics and science teaching techniques and materials in the earlier grades.

The rush to computers in the schools in too many instances has not been preceded by deliberate planning on their uses nor how these might be achieved.

Planning needed for use of computers

The educational function of computers in the schools is (1) to give all students some exposure to this rapidly evolving technology of the future, and (2) to assist teachers by means of computer-assisted instruction. The development and application of well-designed software programs hold considerable promise for instructional uses.

The Shortage of Mathematics and Science Teachers

Efforts to transform the mathematics and science curriculum will not succeed unless there is an increased supply of well-prepared teachers.

The shortage of mathematics and science teachers has worsened since 1981, as the production of graduates prepared to teach mathematics and science continues to plunge. On the demand side, the growing recognition that elementary and secondary students must have more and better mathematics and science instruction adds to the disparity between the need for qualified teachers and the limited number that schools can attract and retain.

South leads in efforts to overcome shortages

Moreover, there is a growing realization that many teachers presently assigned to mathematics and science courses have not been sufficiently prepared in these areas.

The South has been in the lead nationally in actions states have taken to attract more science and mathematics teachers—without awaiting federal dollars. The broadest state loan-scholarship program in the nation for such teachers was enacted by Kentucky during 1982. Legislation authorizing a similar program was passed in Georgia, and is being considered in a number of other Southern states, with one state giving priority to prospective science and mathematics teachers in its existing scholarship program. Alabama also provides some assistance in the form of scholarships.

A second approach consists of providing support to present teachers in other fields, or teaching out-of-field, to become certified in mathematics and science. A statewide program to this purpose is being provided in Florida through local teacher education centers, and in North Carolina through 20 eight-week summer institutes.

Improving employed teachers' mathematics and science competencies

Such programs represent a partial remedy to the practice of assigning inadequately prepared teachers to mathematics and science courses.

A few universities have taken a leadership role to improve employed teachers' competencies in mathematics and science. Delta State University and several other Mississippi universities waive tuition for their programs. The University of North Carolina at Chapel Hill has obtained private support to cover tuition. School districts in Dallas and Houston are paying all costs for teachers to be retrained in these subjects.

The worsening shortage has led to differential pay for mathematics and science teachers, in response to market realities. Some school districts have acted on the fact that they compete with the

private sector, which often pays twice the salaries offered by schools. Intangible rewards, which are said to motivate teachers, can be stretched only so far. A limited number of districts in the region are providing differential pay for shortage areas, and a program has been implemented in North Carolina to place one-third of its mathematics and science teachers on 11-month contracts, thereby increasing their pay by 20 percent.

Differential pay for shortage fields

There have been numerous appeals to industry to help solve the mathematics and science teacher shortage. The private sector, which is luring away the teachers, will be the primary loser if future manpower is not adequately trained in mathematics and science. Suggestions range from industry sharing its own staff with local schools to providing employment for teachers during the summer. For example, in West Point, Virginia, an arrangement has been worked out with a local corporation whereby the company provides a mathematics instructor for a half-day in exchange for use of school resources. In the main, however, schools cannot depend upon industry to staff science and mathematics courses on an ongoing basis.

Tighten general education for all teachers

The most immediate response by colleges and universities to improve mathematics and science instruction in the schools can be a tightened general education component for all teachers, especially elementary and middle school teachers. Presently, preparation programs include very limited science and mathematics requirements for teachers, with as little as six hours required in each of these subjects. It would be hopeless to assume that science and mathematics curricula will be improved and adequately taught by teachers who have insufficient backgrounds.

Several recommendations are concerned with mathematics and science education:

15 As courses in mathematics and science are added to high school graduation requirements, states should carefully examine the content of such courses to insure that they serve the needs of college-bound and other high school students. States and local systems should also develop ways to revitalize the mathematics and science curriculum in the earlier grades.

16 State boards of education should develop guidelines for uses of computers in the schools and offer assistance in their implementation.

17 Because the shortage of mathematics and science teachers will not be met by any single strategy, states should enact a full array of incentives to attract, retain, and retrain teachers in these fields. States should closely monitor supply and demand and prevent placement of teachers in out-of-field assignments as a remedy for shortage situations.

18 All institutions that train teachers should examine their general education component and strengthen mathematics and science requirements for elementary and middle school teachers.

19 Colleges and private industry should share their personnel to assist schools with science and mathematics manpower shortages. State departments of education should modify their certification regulations to facilitate such placements.

Vocational Education

Perhaps in no other area addressed in *The Need for Quality* has so little progress been made as in improving vocational education in secondary and postsecondary institutions. Three major issues need attention.

Confusion of purpose in vocational education

(1) What is the essential role of high schools in preparing youth for work? Is it through general career awareness programs that begin in early adolescence? Is it through the offering of "occupational clusters" that introduce students to broad vocational subjects, such as industrial tools or agricultural principles, or is it through training for specific occupations? Is the major responsibility of high schools in preparing youth for work to provide them with the basic skills of communication and mathematics that are needed in all occupational pursuits?

If each of these objectives is important, is it realistic to expect high schools to succeed in all areas, or is it desirable to establish priorities? To what extent can comprehensive high schools offer a varied occupational preparation program?

Enrollments in secondary vocational education are concentrated in the non-occupationally specific areas, such as home economics, consumer education, and industrial arts. Only a small proportion of the students enrolled in vocational education in the high schools participate in cooperative arrangements with on-the-

job training. The image that vocational education has been a "dumping ground" for students who perform poorly in academic subjects reflects, to some degree, the reality of non-rigorous vocational programs. How can students be better served? By greater integration of basic skills instruction into vocational applications? By a focus on performance standards of identified occupational competencies? By redirecting the emphasis of vocational education in schools to technical programs and to on-the-job training?

Reducing unnecessary duplication

(2) How can unwarranted duplication of vocational offerings be reduced? What are the trade-offs between widespread access to postsecondary vocational programs and the cost of duplication, especially for vocational programs that require expensive equipment and for which there is a scarcity of instructors? To what extent does duplication of offerings by different types of vocational institutions result from rigidities that assign certain age groups to one institution and other age groups to a different set of institutions? Is there the possibility of opening programs, regardless of their settings, to all who desire training and meet admissions standards?

(3) Do the vocational programs in secondary and in postsecondary institutions reflect the directions of economic change? Why do "technical" program enrollments constitute less than one percent of occupationally-specific vocational enrollments in the high schools, and only 13 percent in the postsecondary institutions? These enrollment patterns do not match economic development aspirations in a technological society.

Greater role for states in vocational education policy

Some states have addressed these issues seriously. The Texas legislature commissioned a comprehensive study of all vocational education programs in the state and is now considering the findings and recommendations. In Tennessee, a commission has examined the problem, concluding that the emphasis in the high schools should be to prepare students in the basic skills, and that the primary setting for occupationally-specific training is to be in postsecondary institutions. The Tennessee commission recommended consolidation of some postsecondary programs to eliminate unnecessary duplication, as well as greater emphasis upon technical programs.

Direct federal dollars account for 10 percent of vocational education expenditures. Some states have not addressed the objectives and the operation of their vocational programs in depth on the grounds that federal directives preempt state leeway in such

decisions. Since the federal role is now up for reauthorization, states have an opportunity to seek more authority to shape their programs.

Industry could play a greater role in redirecting vocational education to reflect the work skills of the future than has been accomplished through advisory councils in the past. Indeed, business leaders are currently involved intimately in the implementation of the Jobs Training Partnership Act (JTPA). That program is concerned with shaping the needed directions for retraining unemployed and displaced workers—directions which should be equally relevant in planning vocational education programs for young people. The time and effort top executives are devoting to point JTPA toward effective outcomes could be melded into state planning for vocational education.

Delivery of vocational guidance a major problem

Effective counseling of high school students to make reasoned plans for entering the labor market or for pursuit of further education continues to be a serious problem.

The employment of persons with labor market experience to counsel students may be an alternative to the use of academically-oriented counselors. Yet, school systems with grave financial problems are unlikely to employ enough specialists to provide adequate vocational guidance. The estimate of a current average ratio in the nation of 450 high school students per counselor illustrates the magnitude of the problem. For the time being, greater emphasis on career awareness and vocational planning will probably depend on individual teachers. Further efforts are needed in using occupationally-oriented counselors to help engage the entire school faculty in giving greater attention to career awareness throughout the academic and vocational curriculum.

This recommendation is addressed to vocational education:

20 If they have not already done so, states should give high priority to a close appraisal of vocational education. Such reviews should include evaluation of the objectives of vocational education in the high schools, of duplicated occupational offerings by the various sectors of education, and of the market relevancy and quality standards of available programs.

SREB should continue to delineate the issues and provide current and relevant information on ways to improve vocational education in secondary and postsecondary institutions.

Beyond Barriers and Vested Interests: Partnerships for Progress

Each of the actions described in this report is heartening and represents initial and, sometimes, major steps on the path to quality education in the South. Perhaps the most notable trend of the past two years has been the new spirit of cooperation between schools and higher education. The recent initiatives to raise academic standards have, for the most part, involved coordinated action by state boards of education and of higher education. Lines of communication have been established through joint committees of respective state boards or through commissions composed of representatives of all the constituencies of education. These signal a cooperative style scarcely evident two years ago.

Joint efforts of state boards encouraging

Higher standards for admission into teacher education programs exemplify joint policy development by the two boards in North Carolina, Virginia, and Georgia. Commissions, liaison committees, or task forces representing both sectors have worked in Texas, Maryland, Florida, Tennessee, Virginia, and West Virginia to produce a wide array of important recommendations, ranging from curriculum revision to improved staff development for teachers. Higher education agency efforts to revise minimum standards for college admissions have involved consultation with school personnel in Kentucky, Florida, Louisiana, and Mississippi.

School/college cooperation at the local level

Individual colleges and schools in some localities also are tackling problems together. These cooperative efforts cover a wide range, from the University of Virginia's instruction in the use of computers for classroom teachers, to advancement of liberal arts education in Appalachian schools by the University of Tennessee at Knoxville, to efforts of the University of North Carolina at Chapel Hill to train mathematics and science teachers for the schools. Colleges are assisting schools to serve talented high school youth, either on the college campuses or by promoting advanced placement programs in the schools.

Also heartening are efforts of local school-college consortia to inform young people within their area that a rigorous high school program is necessary to succeed in college. Leadership in this

direction by Miami-Dade Community College, along with other colleges in that area, and the local public and private schools is noteworthy, as are the efforts by Lamar University (Texas) and nearby colleges and schools to develop joint strategies to raise educational standards in both sectors.

Colleges of education enjoy the greatest opportunity to contribute to and benefit from school-campus cooperation. They are already heavily involved in using the schools to train student teachers. While some colleges of education have initiated projects to improve teaching or management of schools, more widespread activity of this type would benefit both parties. The education faculty needs to stay current with the reality of schools' problems, while the schools may gain from exposure to research findings on the campuses.

Continued dialogue among educational leaders is essential

The Task Force on Higher Education and the Schools and the Southern Regional Education Board during the past two years have sought to expand dialogue between the various constituencies in education. There is great need for much more joint discussion on the issues covered in this report. This dialogue should include teachers and principals, superintendents and college presidents, accrediting agencies and professional organizations, as well as lay political leaders.

Opening the lines of communication is only the first step toward reform. The fundamental principle that education exists to serve students, first and foremost, is sometimes neglected in the competition to protect the interests of various constituencies. The interest of students, for example, comes ahead of competitive concerns by schools for average daily attendance slots and of colleges and various vocational education programs for enrollment credits.

While some recommendations in this report and in *The Need for Quality* may disturb one or another special interest in the huge educational enterprise, these recommendations reflect the philosophy that students come first. The other concerns, while important, are secondary. With this spirit, communication involving the many constituencies of education will lead beyond minimum standards toward higher achievement by students in schools and colleges. That is the essence of the job to be accomplished.

Money and Quality Education

Meeting the need for quality despite financial constraints

The financial stringency of states in the region is even more severe today than two years ago when SREB published the recommendations on educational improvement in *The Need for Quality*. Realistic recommendations to raise educational standards must take into account limited resources. This implies the crucial necessity of making choices among numerous worthy expenditures.

Some of the recommendations in this report and of the previous report do entail additional financing. Substantial salary increases for good teachers will require sizable funding. Eventually the public will have to decide how highly it values quality instruction of the nation's youth.

It should not be overlooked, however, that many of the Task Force's recommendations not only entail no new costs, but could actually represent savings. Tightened college admissions standards may reduce the number of young people who spend a few quarters on campus, often in remedial work, before deciding they made the wrong choice. Indeed, expected enrollment declines in colleges and high schools suggest the possibility of savings if the "hard decisions" on closings and retrenchments are made through enlightened administrative and political leadership.

Use existing resources more effectively

The return to a more structured high school curriculum may cut the need for specialists in peripheral subjects. Reduced emphasis on the accumulation of college credits for renewal of credentials might slow the rush to graduate courses by teachers and, thereby, present an opportunity for more adequate funding of school district staff development, given adequate safeguards. Greater selectivity by graduate educational administration programs would reduce enrollments and the vast supply of certified potential principals, many of whom will never be called on to serve in that capacity.

If current financial constraints lead to judicious reduction of programs and to deliberate choices between effective and less effective programs, all of education will benefit and the public may become more willing to provide further support.