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ABSTRACT

This report describes collaborative efforts among secondary and postsecondary educators and state policymakers to improve the quality of academic preparation for college and to extend the opportunity for good preparation to more students. The report is divided into three major sections. The first section, "Strategies for Improving College Readiness: Courses and Competencies," presents descriptions and examples of the following linkage strategies: (1) courses for college admission; (2) college preparatory curricula; (3) competencies for college study; and (4) dissemination of information on higher education standards. The second section, "More Strategies: Academic Preparation and Motivation," presents descriptions and examples of the following additional collaborative strategies: (1) early intervention; (2) outreach; (3) acceleration; and (4) feedback and exchange among institutions. The third section, "Guidelines for States," offers 15 recommendations to facilitate linkage between secondary and higher education at the state level. The report includes the following five tables: (1) "Courses for College Admission: 1983 State Actions"; (2) "Comparison of New Statewide Admissions Policies"; (3) "College Preparatory Curricula: 1983 State Actions"; (4) "Special Diplomas: 1983 State Actions"; and (5) "Competencies for Success in College: Planned State Actions." A bibliography lists materials in the following categories: (1) background works; (2) brochures on preparation for college; (3) regional and national surveys; and (4) state reports. Four appendices provide lists of relevant organizations and agencies and names of the members of the project advisory committee. (AF)

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The College Board is a nonprofit membership association that provides tests and other educational services for students, schools, and colleges. Its membership is composed of more than 2,500 colleges, secondary schools, school systems, and education associations. The Educational EQuality Project, launched in 1980, is a 10-year effort of the College Board to strengthen the academic quality of secondary education and to ensure equality of opportunity for postsecondary education for all students.

The views and comments herein do not necessarily reflect the views or policies of the College Board.

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A JOINING OF HANDS

STATE POLICIES & PROGRAMS TO IMPROVE HIGH SCHOOL-COLLEGE LINKAGES

by
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The State Education Research Center

of

The Council of Chief State School Officers and The National Association of State Boards of Education

for
The Educational Equality Project The College Board

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INTRODUCTION

Across the country, citizens and educators from all levels of our educational system are collaborating to improve the quality of schools. The activity amounts to a grassroots movement, characterized by local variety but sharing similar goals. This report, prepared by the State Education Research Center, a joint venture of the National Association of State Boards of Education and the Council of Chief State School Officers, examines one of the major goals of this reform: to improve the quality of academic preparation for college and extend the opportunity for good preparation to more students. To achieve this goal, secondary and postsecondary educators and policymakers have started thinking and working together. Our report documents the variety of collaborative approaches being used in different states, in the hope of promoting the sharing of perspectives and strategies that is critical to success.

The high school-college connection is forming at many levels. Foundations, government agencies, businesses and associations are involved in providing funding and direction, and many universities and high schools are entering into collaborations on their own. This activity has been documented by the Carnegie Foundation for the Advancement of Teaching, the American Association for Higher Education, and many others.

The role that state policies and programs can play in improving college preparation and fostering linkages, however, has received less attention. Recent surveys have monitored changing state requirements for high school graduation and college admissions. But the full range of new state policies and programs linking secondary and postsecondary education, and the issues involved in linkage, have not been explored. We hope that *A Joining of Hands*, in focusing on state-level activity and referring to local collaborations as necessary, will fill that gap.

But *A Joining of Hands* is not simply a report. It is a handbook for you, our readers, to use in considering and developing policies and programs in your own states. Our purpose is not only to document recent state achievements, but to organize that wealth of information in a way that will stimulate new ideas and new efforts at linkage. These efforts will require the participation of a broad range of people concerned with the health of our educational system. Whether you are a member of a state board of education or board of regents, a legislator, a local official, a teacher, an administrator, or simply a concerned citizen, this handbook is for you.

The first part of *A Joining of Hands* (Chapters I and II) sets forth eight major "linkage strategies"—ways that secondary and postsecondary sectors can work together to improve college preparation. Based on a survey of state policies and programs that we sent to state superintendents, higher education executive officers, legislative staff, and legal counsels to state boards of education in all the states and territories, we identified these eight strategies as the most promising and important ways to foster improved preparation for and access to college

For each linkage strategy, we present a brief discussion of its goals and characteristics, illustrating its use in states across the country. Chapter I discusses the most prevalent strategies: setting guidelines or requirements for the courses or competencies needed for college study. It documents in detail the specific policies in all states that reported some involvement. Chapter II introduces other strategies which have not received as much attention at the state policy level, including a variety of ways to improve the preparation and motivation of selected groups of students. Here we draw on selected examples which illustrate the possibilities for statewide as well as localized activity.

Designing and implementing the eight linkage strategies calls for strong relationships between secondary and higher education authorities. Chapter III provides guidelines for the establishment of a state-level linkage between secondary and higher education. Our recommendations for building this relationship are based on the 50-state survey, and especially on a study of the policy-building process as it took place in Ohio, Oregon, Rhode Island and California.

Finally, we include an extensive bibliography of background works and state materials on linkage (often referred to as articulation in the literature), and several appendices of organizations and agencies to contact for more information. These sections, like the rest of our report, are designed not simply for documentation, but for your use in exploring new strategies to improve academic preparation for college.

I. STRATEGIES TO IMPROVE COLLEGE READINESS: COURSES AND COMPETENCIES

Several recent national reports have given priority to one recommendation: that high schools, colleges and universities all raise their standards for the work students must perform and the competencies they should gain. While the reports may make it sound simple, the goal is ambitious and complex. Standards cannot be raised overnight—nor, what is more important, can they be met the next day. This is doubly true when the call for improvement is directed at once to high schools and colleges, and parallel action is expected. Seen in this light, the goal of improving college preparation is thrown into relief. It is not only a priority in raising the educational horizon and ultimate attainment of most high school students; it will be a sign of how well our educational system holds together.

Three elements required for success deserve to be mentioned here and borne in mind as we examine how states are responding to the challenge of college preparation.

First, coordination between high schools and colleges is critical. Colleges, concerned over dropping enrollments, are reluctant to set up new hurdles and raise expectations generally if high schools are not urging more academic course-taking. High schools find it difficult to justify expenditures to improve academic programs, much less get students to enroll in them, if public universities are happy to admit all comers on equal terms and liberally provide remediation. Unilateral action always appears easier, but it is necessarily less effective than shared effort, and despite the best of intentions, may cause resentment or revive familiar tensions. Happily, the national raising of standards has been done with an unprecedented degree of cooperation. It has been an occasion to strengthen bonds, not fray them.

Second, there is the need for commitment. If it is to be more than a theoretical exercise, the process of redefining expectations must involve everyone concerned. Only when standards are raised out of a sense of need will the effort to attain them follow. Otherwise, no matter how well they are formally established, new standards will quickly become invisible.

Third, the effort must be broad and comprehensive in spirit. While cooperation between schools and colleges will naturally focus on the preparation of those students considering college, it would be impractical and counterproductive to try to define rigidly a group of college-bound students. There will always be students who decide late in school, or afterwards, to attend college. If new expectations are used to challenge rather than stigmatize or exclude, general education will be enhanced and more students will be persuaded to begin pursuing college sooner. Many of the products of collaboration, like new curricular and instructional ideas, can benefit all students—just as space technology "spun off" to other industries. And many collaborative projects, in this period of no-growth enrollment, are continuing to motivate and prepare new kinds of students for college. In short, we will use the term "college-preparation" to describe a process which extends to students more and less "college-bound," from those ready to do college-level work early to those who would not aspire to college without encouragement and basic academic support.

With those notes in mind, let us explore some of the basic ways to improve college preparation. In this chapter, we will examine the variety of strategies states are using to define, establish and publicize the courses and competencies needed for college. In Chapter II, we will look at a variety of special programs to help raise the preparation and motivation of students to the new levels that are expected.

Linkage Strategy One: Courses for College Admission.

The fastest way to raise standards for college preparation, if not finally the most effective, is to raise hurdles. Twenty states have recently implemented (or in a few cases strengthened) standards for college preparation in terms of high school courses to be completed, and many others are considering such action. These states are using various strategies, some focused on college admissions (which we consider here) and others on high school curricula (see Strategy Two below). Nonetheless, in the great majority of cases the effort has been a cooperative one, involving and affecting secondary and higher education. Clearly, this represents a new level of state involvement in the issue of preparation for college.

The following overview, presented in the tables at the back of this report and in the paragraphs below, presents these policies and plans as they stand now. This freeze-frame approach, it should be noted, entails some distortion of reality. Many of these policies have undergone a long process of development, and will be further revised as "effective" dates approach and as practical lessons are learned from implementation. Our purpose is to compare different approaches and to capture the scope of action and interest across the country at the present time, when policy development is culminating, but by no means over.

The eighties have seen a turnaround in admissions standards at public four-year colleges and universities—most of which had fallen to the level of a minimal class rank or GPA requirement, and only an occasional high school course in excess of graduation requirements. A 1982 survey of the 50 main state universities found a "major shift," with 27 of the schools implementing or considering new requirements. And the higher standards, the survey found, "usually center on course requirements." Universities, it seems, had realized that requiring a pattern of courses for admission was an excellent way to help put back together the fractured high school curriculum.

State education policy has only recently caught up with the campuses in this area. Typically, state higher education agencies have established minimum class rank or test score criteria (except, of course, in states with open admissions rules). Now, many states are setting a standard sequence of high school courses required for admission to public higher education statewide.

As shown in Table I, seven states have adopted a required sequence of courses for admission to all public four-year colleges and universities (Arizona, Florida, Kentucky, Massachusetts, Mississippi, Oregon, and South Dakota), two are developing one (Arkansas and Idaho), and many others (not listed in the table) are considering action. In addition, in states which do not centrally mandate admissions policies, the higher education agency may make a strong recommendation and oversee its implementation. Ohio, one of the states which initiated the strengthening of admissions policies, has been successful in encouraging almost all public and many private institutions to develop policies similar to those recommended jointly by the State Board of Education and the Board of Regents. South Carolina has taken this approach, and Colorado is considering it. In eight of these twelve states, policy design—not simply approval of revision—has been a joint activity of secondary and higher education.

Statewide policies on courses for college admission have the advantage of sending a single, clear message to students about college preparation. However, they may also run the risk of limiting institutional autonomy. As the comparative analysis in Table II shows, ten of the twelve policies have been designed as a minimum which institutions may meet or (usually with agency approval) exceed. In this way a single standard of basic preparation is established, while colleges are given leeway to tailor policies to their individual missions and characteristic degree of selectivity. (Additionally, colleges are normally left free to set their own policies on admission to special programs.) In some other states, a comprehensive policy, insuring uniform admissions policies, has been developed or considered. This has the advantage of eliminating any confusing signals which may arise from discrepancies between the state minimum and individual policies, and of avoiding the friction that may occur between institutions developing their own policies. However, most states have preferred to allow a degree of autonomy and a range of selectivity.

Tables I and II taken together provide a picture of the variation which exists between these policies. Most states agree on recommending four years of English, three of math (normally representing Algebra I, Geometry, and Algebra II), from two to three years of science (usually specifying at least one lab course), two to three years of social studies (normally U.S. History, U.S. Government or Civics, and a world history or culture course as the third year), and two years of a single foreign language. Six states specify completion of additional academic courses in any of these fields, to be selected by the student. Only a handful of states mandate a computer science or arts course for admission; however, several states mention these as wise elective choices.

A major concern in the development of these policies has been the exclusion of certain categories of students: older students who may not have taken the proper courses when in high school, talented students wishing to enter college early, transfer students from community colleges, and students who, because of disadvantage, special needs, or for other reasons, may have had trouble completing the necessary courses but show academic promise. As Table II shows, six of the seven state policies which have been adopted contain provisions for such students, specifying either an admission conditional on remedial work and close guidance, a simple exception, or the development of an alternate admission policy for a certain group of students. Criteria used to limit these admissions include test scores, a percentage limit based on size of entering class, or age or years out of school for older students.

Another method of introducing flexibility is to establish alternative criteria to the course requirements. In Arizona, Oregon and Kentucky, a certain level of performance on a standardized test may be used to substitute for completion of a course in that field, and in the first two states higher education course credits may also be substituted. In Mississippi, exemptions from all course criteria will be granted to students scoring above certain composite ACT levels. These options will benefit advanced students wishing to enter college early or to skip certain high school courses. On the other hand, such provisions may risk offering some students an easy way around courses which they should take. A balance must be struck between flexibility, which is an essential element of articulation, and firmness, which will insure better preparation for most students.

Transfer from community colleges, where open admissions are preserved, will be a growing concern as hurdles are raised at four-year colleges. Most states have standing transfer policies, usually requiring an A.A. degree, and some states have specified exactly what course may be counted for transfer in general, or established core transfer curricula (e.g., Georgia, Texas) for specific fields of study. These policies may have to be modified to insure that transfer students have remedied any high school deficiencies which may have barred them from entering four-year colleges directly out of high school. Mississippi's new policy specifies the completion of a sequence of courses in community college with a C average, and Massachusetts has taken the opportunity to develop a more clearly defined transfer policy.

Linkage Strategy Two: College Preparatory Curricula

Many states are not about to take the actions described in the last section, for good reasons. They may wish to preserve a comprehensive open admissions system; they may, by law or tradition, refrain from mandating statewide admissions policy; or they may regard change in university admissions as a later stage in the process of raising standards. Such states are focusing their efforts directly on the high schools. Nine states, as shown in Table III, have recently developed a sequence of courses which high schools encourage (or in one state require) college-bound students to complete, not directly linked as yet to any change in public university admissions (California, Delaware, Georgia, Illinois, Kansas, Louisiana, Montana, Rhode Island, Wisconsin). In six of these states, the curriculum was developed jointly by secondary and higher education representatives. A similar strategy is to issue special diplomas for completion of, or excellence in, a college-preparatory curriculum. Table III shows five states—Florida, North Carolina, New York, Virginia, and Oregon—that are planning this strategy. Many others are considering action.

Other strategies to encourage taking of academic courses abound, and are being considered as supplementary measures in several of these states: requiring seniors to take four or five credits, weighting academic courses in computing GPAs, rewarding schools whose students receive high Advanced Placement scores, changing state standards to ensure that schools offer enough pre-college courses, requiring counselor-approved schedules of courses, and so on.

All this, of course, presumes that basic graduation requirements are high enough to support these extra incentives—that students are on a foundation from which they can reach for more. While state-mandated graduation requirements are a standard all students must meet, they can greatly affect the general readiness of students for college. Many of the college preparation efforts described so far in this chapter have paralleled efforts to strengthen graduation requirements at the state and local levels. The rising trend in state-mandated graduation requirements, which equals the major shift in university admissions policy, is beyond our scope: it has been documented for 1980 by the National Association of Secondary School Principals survey, which was recently updated by the National Center for Education Statistics.

The strategy of establishing a recommended preparatory curriculum for high school students to take often includes or leads to another important

step, which we will consider next, the development of competencies to be mastered by college-bound students. Six of the nine states listed in Table III are involved in the development of competency statements, as are four of the twelve states in Table I.

Linkage Strategy Three: Competencies for College Study.

A more ambitious and comprehensive method of raising standards is to specify competencies which college-bound students should acquire. Competencies guide and direct the stream of education in a way that course or content requirements cannot. Competency statements normally include discussion of the aims of study and the general skills required within and across disciplines, and a listing of specific skills expected at each level within a subject area. The skills may be illustrated by writing samples, math problems, test questions, or in other ways. Competencies may include both measurable skills and such intangibles as a frame of mind needed for study. A syllabus or listing of course content is not in itself a statement of competency.

To define the goals of college preparation in this way requires a great deal of commitment from both secondary and higher education personnel. The expectations of colleges about what knowledge entering freshmen should have must be tempered by the perspective of high schools on what students can learn. The joint agreement then provides a unifying purpose while defining a mission for each level: broadly speaking, colleges are to work from the competencies, high schools towards them.

For each state to start from scratch to define competencies would be a lifelong education in itself. Much collaborative work has already been performed on a national scale, and can be found in the College Board's *Academic Preparation for College*, the National Science Foundation's report on precollege education, and statements by teaching organizations regarding individual subject areas. These represent the combined judgments of educators from around the country and from all levels. The definition and interpretation of competencies will vary by region, state, and institution, reflecting differences in values and mission; nonetheless, these existing national statements are indispensable guides to the process.

Higher education, it can be argued, has a leading role to play in the process. Deciding what skills are needed for academic success in college demands a description of what success means—or, in the College Board's phrase, of the "full benefits of higher education" to be obtained. Thus the effort to define what is needed for college has drawn on (and inspired) reexamination of the general purposes of college.

Joint involvement of secondary and higher education from the start of the process is ideal. When colleges do take the lead, it is especially critical that high schools become involved in developing the competency statement with which they will have to work. Joint statewide efforts to define competencies needed for college have already taken place in California, Colorado, Kentucky, Louisiana, New Jersey, Ohio, Texas, and Wisconsin. These are described below, with special reference to the process and resources used in each state. (As for the content of the competency statements, there is no substitute for close reading and comparison. To obtain materials, the reader should consult with the state education agencies and higher education agencies in Appendices B and C.) In addition, efforts are underway or

planned in Delaware, Iowa, Illinois, Nevada, New York, Oregon, Rhode Island, Tennessee, and Washington. These are summarized in Table V.

- In the spring of 1981, the combined academic senates of the California Community Colleges, the California State University and Colleges, and the University of California initiated "the most extensive faculty cooperative activity ever undertaken" in the state. After more than a year of study and consultation with colleagues in secondary and higher education, and with the help of the California Roundtable on Educational Opportunity (chiefs of the three systems and of the Independent Colleges and Universities, the Director of the Postsecondary Education Commission, and the State Superintendent), a *Statement on Competencies in English and Mathematics Expected of Entering Freshmen* was issued. It postulated that "admission requirements or recommendations that specify prescribed numbers of years of study are not sufficient for defining. . . minimum preparation." The report did urge CSU, like UC, to set required high school course levels in English and mathematics which it has since done. The statement sets forth skills in writing, reading (based on the College Board Statement) and mathematics (based on Ohio's model described later in this section). The bulk of the report consists of graded examples of placement examinations in English given to freshmen at the three postsecondary systems, and sample problems in mathematics. The inclusion of graded essays, with comments justifying each grade, is unique and especially effective in communicating the expectations of each university and the perspective of college faculty in general. The extensive work of the University of Wisconsin at Madison's High School-College Liaison Committee served as a model for these sections. Mathematics recommendations were developed with the help of the existing UC/CSUC Workgroup on Diagnostic Testing in Pre-calculus Mathematics, which includes high school and community college mathematics teachers. Thorough review of the statement by high school faculty and staff was facilitated by the Coalition for the Improvement of Intermediate and Secondary Education, a group of 14 statewide education and community organizations. In addition, *The Statement on Competencies* has been incorporated by the State Board of Education in its recently developed model graduation requirements intended to "challenge local districts to raise their sights" and, eventually, to be met by all students (see Table II).

- Colorado's effort to define competencies for college preparation originated at the K-12 level as part of a broader project. In 1982, the state board established task forces in English and mathematics representing teachers and administrators from the elementary through university level, school boards, businesses and lay citizens. Their reports, issued in September, outline skills needed for three objectives: social functioning, job entry, and college entry. Similar task forces were established last July in sciences, social studies, and foreign language. In addition, a joint Commission on Higher Education/State Board of Education committee on college expectations

and remediation recently recommended a pre-college course sequence (See Table II) and a set of collaborative activities to support the establishment of competencies.

- In October, 1981, the report of the Pritchard Committee on Higher Education in Kentucky's Future recommended that the state's public universities "identify and agree upon basic or minimally acceptable college preparatory curricula to be required of all entering students," and that the Council on Higher Education establish a joint committee to effect the change. The Pre-College Curriculum Committee was formed the next May, composed of high school, community college and university teachers and administrators and Department of Education staff, and co-chaired by two citizens not in the education profession. The committee developed minimum requirements of coursework in English, mathematics, science and social studies for admission to public universities (see Table I). In addition, while noting that "assessment of competence is costly, difficult, and subject to serious public disagreement," the committee developed competency statements in English and mathematics to elaborate the course requirements. Two related measures will lend support to implementation: new graduation requirements for all students (which mandate the same number of years of coursework as the committee, but do not specify courses to be completed); and a new statement, *Minimum Basic Skills for Kentucky Schools*, which outlines for teachers the minimum skills to be developed at each grade level in mathematics, reading, reference, spelling and writing.

- In June, 1982, The Louisiana Board of Regents for higher education appointed a task force from secondary and higher education to identify the courses to be taken (Table I) and the competencies attained by students considering college as well as by all students interested in a complete high school education. The final report, which was distributed in booklet form to parents of eighth grade students, contains descriptive sections emphasizing the importance of general skills developed by the study of English, mathematics, science, social studies, fine art, a foreign language and by reading and studying in general. The booklet includes some sample mathematics problems, extensive lists of course contents for different years of study within each field, and a summary of the task force recommendations to the school system.

- New Jersey's competency project has progressed from the institutional to the state level. In the spring of 1982, the President of Rutgers, The State University, established a faculty committee to define expectations of entering freshmen. At the request of the state Chancellor for Higher Education, parallel groups were formed by the State Colleges, the Institute of Technology, the associated Independent Colleges and Universities, and the Community Colleges (the latter including high school representation as well). Completed within a year, each report provided recommendations both to its member institution(s) and to a Statewide Task Force on Pre-College

Preparation formed jointly by the Commissioner of Education and Chancellor in early 1983. The Task Force, composed of high school and college faculty and administrators, was charged to examine high school and college requirements, and the problem of remediation in English and mathematics, using the submitted reports as a starting point. The final report of the Task Force emphasizes the unity of high school-college education and recommends a sequence of proficiency testing at grades 9, 11, 13 and 15. The tests will function as hurdles for graduation, college admission, and transfer, and will define and indicate the need for remediation at all levels. (Provision of remediation for all students in need of it is required and funded by state policy.) In addition to describing competencies to be tested, the report makes recommendations on appropriate coursework for college preparation.

- Ohio's effort has been marked from the beginning by close working relationships between secondary and higher education. The Ohio Board of Regents and the State Board of Education jointly appointed an Advisory Commission on Articulation between Secondary Schools and Colleges in 1980 to develop a college-preparatory curriculum which would reduce the need for remediation. The Commission appointed task forces of high school and college teachers and other personnel in English and in mathematics. The English task force identified the area of writing as the "widest gap. . . between college expectations and high school preparation." It defined writing in terms of process, logic, organization, practice and attitude, and then listed specific skills in each area. The mathematics task force, taking a different approach, set forth a sequence of courses—algebra, geometry, trigonometry, analytic geometry and probability and statistics—and their specific contents. It described skills needed to begin the sequence and recommended that a diagnostic test be administered in eleventh grade to compare achievement to college entry standards. The report included a joint statement of the Mathematical Association of America and the National Council of Teachers of Mathematics. Three more task forces reported later on competencies in the sciences, social studies, and foreign languages. Each spelled out general attitudes and goals for the student, and specific skills to be acquired in different branches and levels of study. All these recommendations, the initial Commission report noted, "should be agreed to by all postsecondary institutions in Ohio. All Ohio high schools should see that their curricula cover the topics outlined in these programs of study." A joint advisory council of high school and college personnel, along with staff of the Board of Regents and Department of Education, is overseeing implementation.

- In December, 1981, the Texas Commissioner of Higher Education appointed a comprehensive task force—composed of teachers, administrators, state agency personnel, school board members, education organization presidents, a state legislator, a foundation officer, and representatives of two national testing organizations—to address issues of quality faced jointly by public schools and higher

education. The group convened workshops and made recommendations to universities on admission standards, general education requirements and partnerships with schools. A major product of the task force was the development of *Goals for College Success*, a booklet on college preparation which has been distributed to 400,000 students. The booklet sets out the specific skills to be developed and the general attitudes to be cultivated in a number of areas: listening and speaking, reading, writing, algebra, geometry, pre-calculus mathematics, reasoning, studying, and performing coursework in general. The booklet credits the work of the National Council of Teachers of English, the Speech Communication Association, and others.

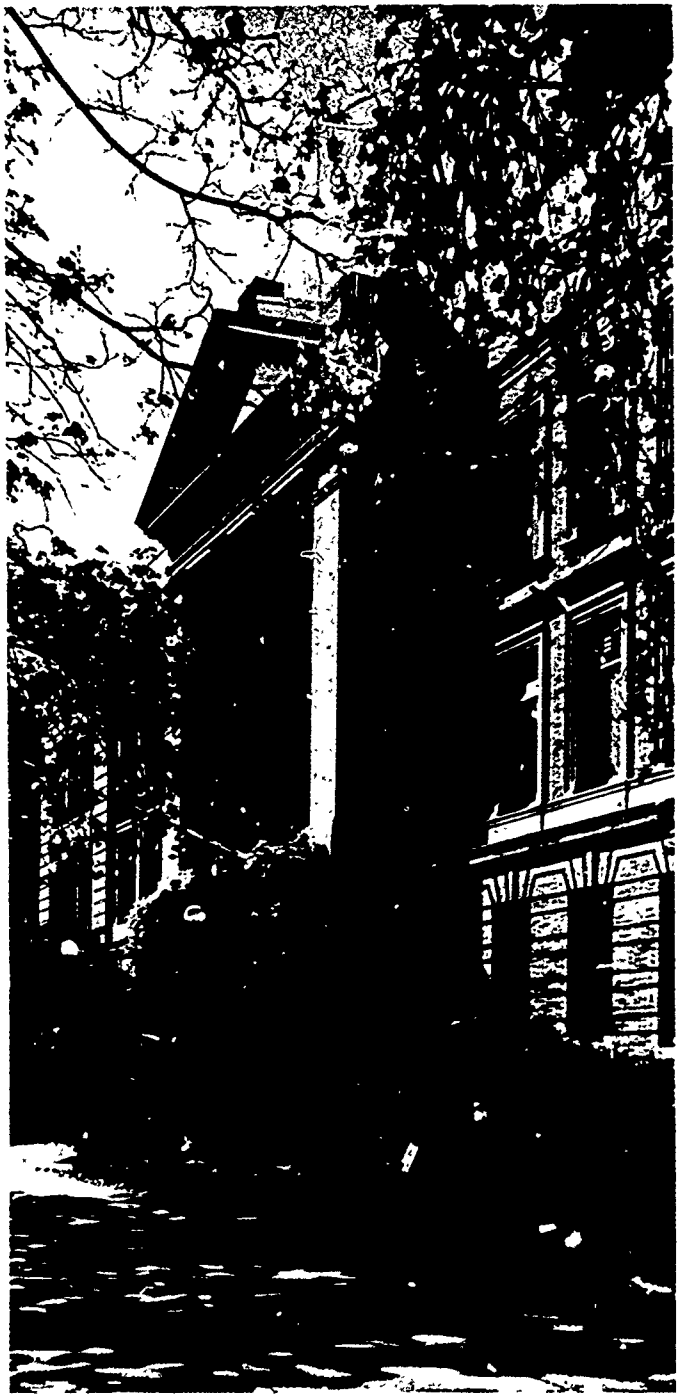
- In October, 1982, the Superintendent of Public Instruction and the President of the University of Wisconsin System appointed a joint council (co-chaired by themselves) of high school and college teachers, administrators and guidance personnel to produce a statement for Wisconsin's college-bound students and their parents and teachers on skills and competencies needed for university study. *Preparation for College* was issued in February, 1983, and distributed that spring in condensed brochure form, along with a letter to parents of all eighth grade students. The statement (based closely on the College Board's) includes general competencies in reading, writing, speaking and listening, quantitative and spatial concepts, reasoning and investigating, study and research skills, and computers. The second part of the report lists skills to be developed within each part of the recommended college-preparatory curriculum (see Table II), and includes a chart of additional coursework recommended as preparation for selected fields of study

Linkage Strategy Four: Spreading the Word.

If new standards are to mean anything, states must make a concerted effort to let students, parents, teachers, counselors and administrators know what is expected of students. In the words of one report, "a statement of expectations is no better than its dissemination." Ideally, expectations should be publicized in several forms, depending on the specific audience. Several states have sent eye-catching material to eighth graders emphasizing the challenge of a solid academic curriculum and the consequences of not taking one: one booklet presents cautionary case studies of four students who did not take preparation seriously, and then decided that they wanted to attend college after all. To older students, states are sending descriptions of needed skills and competencies, including writing samples and math problems, as well as information on academic preparation for specific fields of study. Teachers and counselors benefit from detailed material specifying competencies and related instructional and guidance strategies. Examples of all of these may be found in Part II of the Bibliography.

Several states have supplemented printed material with presentations in other media. In Mississippi, a television program on the new state college admission standards is shown on the educational network. Wisconsin has a slide/tape show on its recommended pre-college curriculum, and South Carolina is developing a brochure and video tape on college opportunity

geared especially to minority students. In Ohio, staff of the Department of Education and the Board of Regents rely on a video tape as a prelude to oral presentations to groups throughout the state. It includes a message from the chairman of the joint Commission on Articulation, interviews with top students and their teachers, actual counseling sessions, and an outline of the new requirements for unconditional admission to Ohio colleges and universities.



II. MORE STRATEGIES: ACADEMIC PREPARATION AND MOTIVATION

Defining, publicizing and institutionalizing the courses and competencies needed for college study represents a major step towards improving academic preparation. As we have seen Chapter I, these strategies lend themselves well to state-level action: half the states have recently taken initiatives of one kind or another in this area, in most cases developing the policy with the closest cooperation between secondary and higher education. The commitment generated by the process of raising standards has already been demonstrated in expanded and improved academic course offerings which are being taken by more students.

However, the relationship between secondary and higher education must not end with the development of courses and competencies needed for college-level work. While a clear agreement between high schools and colleges about what should be taught may well prove to be the single most important factor in improving college preparation, the support of a host of other joint high school-college activities with more immediate goals is essential. As we shall see in this chapter, many high schools and colleges have demonstrated their sense of the need for direct collaboration, attacking the problem from several different angles, and state agencies have begun to foster these efforts.

Since it becomes more acute as it persists into later grades, the problem of poor preparation seems especially urgent for colleges. Poor academic preparation means that students will not advance nearly as far or as quickly, thereby pulling down the level of instruction in general. It also means that colleges must devote a large share of their resources to remediating skills that students should have learned earlier.

For high schools the problem is equally severe, and all the more oppressive for being inescapable. While many colleges may exercise some degree of selectivity, high schools must accept students whose poor preparation has its roots in earlier grades. The elimination of social promotions is one way that high schools may, within limits, be selective, and it has been made a policy priority in many states.

Frustration with the situation has reached a head. Many state university systems have simply written remediation out of their long range plans, leaving it to community colleges if at all. Some state legislatures have refused to fund remedial programs, except for certain courses designated for disadvantaged students. Other students will have to pay for courses if they are offered, or find help elsewhere. The financial need for such measures is clear. But measures that do no more than eliminate programs simply shift full responsibility to high schools. High schools in turn blame colleges for poor teacher preparation and a liberalization of standards that has infiltrated all education.

But while the debate over the responsibility for remediation continues, progress is being made. Colleges, universities and higher education agencies are offering high schools the experience they have gained in providing remedial and general education, rather than the resentment they may have accumulated. In conjunction with high schools, universities are devoting faculty time and research to improving instruction and the curriculum. High schools are responding eagerly, making the necessary changes in organization to accommodate new programs. And at both levels, institutions are looking inward for ways to improve the preparation of their students.

Many collaborations work best as local affairs, bringing together a university and its feeder schools, for instance, or a local institute or business and high school students. State policy, however, is instrumental in encouraging these programs, offering assistance, and expanding local programs to statewide services when and where appropriate. State policy is also instrumental in shaping institutional relationships to promote flexible exchange of information and resources between schools and colleges. In this chapter, we will look at local and state programs and explore how state action can improve student preparation by fostering direct school-college linkages.

Linkage Strategy Five: Early Intervention.

The best way to eliminate poor preparation for college is to frustrate it in advance. Therefore, colleges should be self-interested in working with high schools to improve pre-college education. This section presents a model strategy, which we call an early intervention, as it is being used in one state.

An early intervention, like a surgical procedure, has well-ordered characteristics. It is focused on a specific area, it employs sophisticated tools to define and determine the problem, and it has both a remedy and a follow-up evaluation waiting. Like a surgical intervention, the process, though it may involve exploratory work, is thoroughly planned. These elements—focus, diagnosis, remedy, evaluation and general planning—are the essential characteristics of successful early intervention.

Ohio's Early Mathematics Placement Testing program (EMPT) began in 1977 when Westland High School, near Columbus, Ohio, requested that Ohio State University administer to the school's college-bound juniors the math placement test it gives to freshmen during summer orientation. Westland's concern had been piqued by freshman placement test data t Ohio State had sent to the high schools earlier that year. It showed that over 40% of all entering freshmen fell into Levels 4 and 5 on the test, that is, they had little or no algebraic skill. By making students aware in advance of their achievement levels relative to the University's expectations of entering freshmen, the high school hoped to affect senior course selection and improve preparation.

At Westland, the dramatic result of administering the test to juniors was a 73% increase in seniors taking math courses the following year, an increase in EMPT scores and a decrease in the need for college remediation in the following years. Ohio State began expanding the program immediately. This year, it will include 233 high schools and may test over 30,000 students. Support from the Ohio Department of Education, the Ohio Board of Regents, and the private Columbus Foundation has facilitated the expansion. In addition,the Advisory Commission on Articulation established by the two state boards recommended in its 1981 report that a math placement test be given to all college-bound juniors, and specified EMPT as a model. The program has now been funded by the state assembly to be available, on an optional basis, to any high school junior in the state. State-level support and coordination has been critical in helping Ohio State University expand a single high school collaborative into a statewide service.

As the program has expanded, so has the range of services it offers to students. Each student participating in the program during the 1982-83 year received a computer printout indicating EMPT score and specifying both the

college-level and the remedial courses that the student would need in order to pursue various sub-fields within the student's expected major, as well as the number of remedial courses that would be saved by an improved score once the test is retaken "for real" as an entrance placement exam. The printout has a light tone ("Greetings from Hal, your friendly Ohio State University computer") but includes the stern caution that leaving math out of senior year may result in a loss of skill for any level of student and advises consultation with a counselor or math teacher.

Intensive counseling follows receipt of test results. Most high schools choose to administer the test in January or February, at least four weeks before senior year course selection. Counselors are sent lists of students which relate score level to self-reported post-high school plans and to math course selection. A special list highlights students who report being college-bound but plan to take no math courses during their senior year. Ohio State encourages high schools to make the test available to all students, noting that many students change plans and that the test, which covers much eighth and ninth grade material, may be helpful for vocational students. Schools pay nothing for the test and related services. They must only provide suitable space, time, proctors and a contact person with the university, and agree to provide adequate opportunity for counselors and math teachers to advise students.

The program lends itself well to quantitative evaluation. EMPT scores over time for participating high schools, score changes for students who retake the test upon admission to Ohio State, and numbers of remedial math placements at all universities are easy to determine. These measures have all responded positively, indicating that the sharp increases (averaging 40%) in math course-taking reported by high schools are having a strong effect on preparation.

One measure which has not been responsive to the EMPT, however, is the percent of students who score at the lowest level and remain there upon retaking the test for admission to Ohio State. This led to the development, supported by the Battelle Memorial Foundation, of a course for high school seniors with serious deficiencies in mathematics. The course, called Basic College Preparatory Mathematics, is predicated on the idea that poor math students tend to have great difficulty with abstraction and generalization, but may learn these skills by approaching them in numerical ways.

In the first year of the project, a team of two high school math teachers, two university professors, and two university math teaching specialists created and taught the course for ninety-five students in two Columbus area high schools. Results showed marked increases (over 100 percent) in performance on course tests, and student performance on the EMPT indicated that most of the students would avoid one or both of the college remedial courses. In the second year, course materials were revised during the summer with support from the OSU Office of Academic Affairs, and the course was introduced in 41 representative Ohio high schools. Evaluations indicated that turning over most responsibility to the high schools and their teachers in no way reduced effectiveness. Building on this success, the course is being offered this year in approximately 70 schools, including some in Arizona and California.

There is some evidence that the early intervention approach described here is catching on in other states. California's Mathematics Diagnostic Testing Project, a joint effort of the Department of Education and California

universities which has developed for several years, will offer actual college placement tests to over 70,000 high school students this year. The UC/CSUC Workshop developed the test in conjunction with the *Statement on Competencies* (see Linkage Strategy Three above) and evolved working relationships with school districts in local campus areas. Efforts are underway to increase counseling and follow-up activities, develop broader regional networks, and create agreements allowing high school test scores to be accepted for college placement.

Diagnostic testing is an important element in any statewide early intervention, since it provides a uniform criterion for the provision of services. States which are developing testing programs that go beyond the minimum proficiencies to measure college preparation will find that they are in a position to establish joint early intervention programs.

Applying the early intervention strategy to English skills, which are more difficult to define and evaluate in a standardized way than math skills, is the next challenge. Ohio's Board of Regents recently announced the Early English Composition Assessment Program, funded by the General Assembly and administered through the Regents, to encourage individual collaborative programs between schools and colleges. Major purposes of the program are to identify student writing strengths and weaknesses in relation to college freshman English standards; to improve the response to these needs in senior year courses; and to use relationships between college and high school English faculties to develop and implement better ways for teachers to evaluate student writing.

Linkage Strategy Six: Outreach.

We defined early intervention as focusing on a specific academic area, and especially on students weak in that area. Outreach, on the other hand, focuses on a particular group of students defined by factors other than academic ones alone. These students may be economically or educationally disadvantaged, or underrepresented in higher education or in specific fields of study or careers.

Thus, while early intervention and outreach both serve the broad goal of improved preparation for college, and may benefit some of the same students, they are distinct strategies with quite different aims. Neither is dispensable in a comprehensive program to improve preparation. Early intervention emphasizes the quality of performance in an academic area, and measures success in those terms; outreach emphasizes access to education for a particular group, and gauges its success in terms of enrollment, retention and success of the group in higher education.

Access, it has often been pointed out, may mean many different things. What does it mean to provide educational opportunity for all? Some argue that the selective removal of financial, geographic, and achievement barriers to college admission represents full access. A more comprehensive definition acknowledges the existence of a greater variety of barriers—social, personal, historical—to access. This approach presumes that aspirations and expectations of disadvantaged students need to be strengthened if they are to take full advantage of the opportunities available for higher education. It measures access not just in terms of formal opportunity, but in terms of the use actually made of those opportunities. These are the working assump-

tions behind outreach as we are considering it. (For more on access concerns in admission policy, see Linkage Strategy One above.)

Programs offering support of disadvantaged students in college have flourished since the 1960s. However, the provision of special preparatory support to students in high school is a more recent phenomenon. The outreach efforts we will describe provide services focused both on students' motivation and preparation for college. The programs select students with some interest in and potential for college, but who may be uncertain, unprepared, or both. The programs offer exposure to higher education and the careers to which it may lead, academic tutoring and counseling, admissions information, role models or mentors for students, and a host of services for parents, who are recognized as an important factor in college preparation and transition. Outreach programs may also direct students to remediaton, early intervention, and a variety of other services.

What distinguishes outreach from other programs described in this chapter, in short, is the kind of attention it gives to the student. In successful programs, this attention is flexible enough to consider the range of unique needs and circumstances that affect a student's motivation and readiness for college. Several examples of successful programs are presented below.

- In Connecticut, the Board of Governors for Higher Education and the Hartford Southside Institutions Neighborhood Alliance, with a grant from the Hartford Foundation for Public Giving, have collaborated to help prepare and motivate young minority students for college. Created in 1981, the Minorities in Higher Education Project (MIHEP) aims to increase the number of qualified minority students who enter and complete higher education.

  The project brings together seventh through tenth grade Black and Hispanic students in the Hartford schools with minority college-education professionals in the area. In one-to-one meetings for at least three to five hours a month, mentor and student develop a friendship through which the student gains in self-esteem and learns first-hand about career and educational experiences. Mentors and students talk informally at home or school, visit area colleges to observe classes and explore facilities, and spend time at the mentor's workplace and other job sites in the area. Social activities are important in cementing the friendship and enhancing the student's self-esteem: mentors and students enjoy free use of YMCA/YWCA recreational facilities, and MIHEP receptions bring together all participants, including teachers, counselors, and representatives of area businesses, associations, and colleges. The relationship normally lasts three years; after that, formal participation ends, but continuing relationships are encouraged through the end of high school and into college.

  The program currently involves over 200 students and a similar number of adults. While a wide variety of professions are represented, minority adults in medicine, health fields, law and engineering are in particular demand, due both to scarcity and student interest in these fields. Students are chosen on the basis of teacher and counselor recommendations and information they provide about themselves. They are generally below the top tenth of

their class, and may not participate in Upward Bound or similar programs. Students and mentors are matched on the basis of cultural background, career interest, and other factors. Two pamphlets, one for each group, have been developed with the help of two of Hartford's major insurance companies and are distributed in schools and to area colleges, businesses and associations.

MIHEP's "mentor" approach is ideally suited to the problems of inner city youth, many of whom come from single-parent homes and may lack the positive role models that other students have. These students benefit from the combined emotional support and professional ideal which a mentor offers. Mentors are trained in current issues of minority access to education and careers, possible approaches to the problem, and the role of a "significant other" in motivating the students. In a recent evaluation, many students reported the feeling of "seeing their future" as they shared the personal experience and friendship of successful adults with backgrounds similar to their own.

The program is currently run as a state demonstration project showcasing a supplemental means of college preparation. Project staff hope to expand the program, strengthen the involvement of universities, and encourage the development of similar efforts in urban areas throughout the state.

- The Professional Education Preparation Program in Kentucky was created by the General Assembly in 1980 in response to the problem of a scarcity of practicing dentists and physicians, and of applicants to those professional schools, in rural areas of the state. The main effort of the program, administered by the Council on Higher Education, has been to recruit high school seniors from designated rural counties who will be attending any college in the coming year to participate in summer workshops at the University of Kentucky, the University of Louisville, and Kentucky State University. For five to seven weeks, students work on skills in reading, writing, math and the sciences, visit university health facilities, and hold discussions with dental and medical students and professors. Diagnostic testing, career testing and counseling, and life planning sessions are important parts of the workshops. Applicants to the program are judged on the basis of a one-page statement of interest, their potential to benefit from the program (e.g., critical grades in need of improvement), background (e.g., career and educational attainment of parents), and residence in the most critical target counties.

  The program has expanded from 24 students in 1981 to 65 participants in the 1983 summer session. These numbers reflect both funding limitations (most applicants qualify, but only about half can be accepted) and the scope of the problem which the program addresses: in a statewide survey conducted by the Council on Higher Education in 1981, only two students on average per county expressed interest in medical careers. Rural students have few role models in the field, are underprepared in math and science, believe they do not have adequate financial resources, consider the length of training overwhelming, and are uninformed

about needed preparation. To attack the problem, medical and dental schools have prepared admissions brochures and distributd them to high school counselors, and the CHE staff has made extensive visits to rural high schools to stimulate interest. In addition to the summer workshops, PEPP will expand its programs in amer job placement for college students, training for taking professional school entrance exams, and weekly advisory sessions for college participants.

The problem addressed by PEPP is acute, and the program's aim—to combine the educational goal of broader access with the long-term social goal of improved health-care delivery in rural areas—is ambitious. While it is too early for evaluation, the program is noteworthy for dealing with the often ignored problem of rural access to higher education.

- California has been faced for some time with a soaring population of Black and Hispanic students, many of whom are educationally disadvantaged. Since the early 1970s, major efforts have been made to provide college access, preparation and motivation to these students. A notable example is the University of California Partnership Program, which was initiated with state support in 1975. It mobilizes university students, graduates and faculty to provide counseling, tutoring and other assistance to minority students in over 250 junior high schools. In addition, many other efforts by colleges, universities, and the California Postsecondary Education Commission have focused on outreach to minorities.

  However, disadvantaged students have continued to fill and overburden the schools. As outreach programs proliferated and the problem remained, the need for state coordination became urgent. In 1978, at the request of the Superintendent of Public Instruction, the University and College Opportunities Program (UCO) was created within the Department of Education. It derived its purpose and authority from a resolution of the State Legislature calling for plans to overcome "ethnic, sexual and economic underrepresentation" in the state's institution of public higher education.

  UCO is a prime example of the role a state agency can play in preparing and motivating students for college. About 15,000 students in 90 schools are currently served. In addition to channeling federal funds to innovative school programs designed to increase minority enrollments in higher education, UCO has coordinated state outreach activities in several ways.

  The UCO Network has been established to offer schools the services of resource associates skilled in college preparation, and to develop an information system featuring special events, resources, and a series of handbooks. The Network will help high schools make better use of existing outreach services at area colleges.

  UCO works closely with outreach programs of postsecondary institutions, with the California Postsecondary Education Commission, and with the state- and private-funded Mathematics, Engineering and Science Achievement Program. It provides these projects with lists of target minority schools, coordinates regional meetings, and keeps each informed about the activities of others to

maximize coverage and avoid duplication.

UCO has given special attention to the role of parent and community support in augmenting direct services to students. UCO staff is working with such groups as the Association of Mexican-American Educators, the California Association of Compensatory Educators, and the California Association for the Gifted to promote parental awareness of financial aid and admissions procedures and requirements, and of general skills and attitudes students need to succeed in college.

UCO's most recent effort is to encourage more schools, especially those with high minority enrollments, to select students to participate in programs for outstanding students and to establish school leadership activities. Programs include the Presidential Classroom for Young Americans, the Hearst Foundation's Senate Youth Program, Student Leadership Conferenes, and similar state and national means of recognition.

Linkage Strategy Seven: Acceleration.

A third category of joint activity to improve college preparation which deserves separate mention involves advanced students who are ready to do college-level work early. While the term acceleration often connotes a skip or abbreviation in schooling time, we will use it to refer to all activities that allow high school age students to do college-level work: early admission, cross-enrollment, advanced high school courses, and special non-curricular programs.

Not surprisingly, more attention has historically been paid to the special college preparatory needs of advanced students than to any other group. Providing challenging academic work and opportunities for these students showcases the best of the educational system and represents a sound investment in future scholars, scientists and skilled professionals of all kinds.

Since the crystallization of the K-12 college structure in the early years of the century, educators have struggled to insure that the best students are not held back academically and do not needlessly duplicate courses in high school and college. The Program for Early Admission to College, launched by a group of high schools and colleges in the 1950s, demonstrated the ability of selected high school sophomores and juniors to succeed in college and even out-perform older students. Yet the idea did not realize a popular success; today, students wishing to leave high school and enter college early do so largely on their own initiative. The College Board's Advanced Placement Program, also started in the '50s, presented a less radical alternative; it now provides students in over 20% of U.S. high schools with the opportunity to take specially designed and taught college-level courses, and to place out of those courses in college.

The most prevalent form of direct college activity in serving advanced high school students has been the provision of special summer programs, which now dot the academic landscape. Several universities identify and test talented junior high school students for such programs. A few notably innovative approaches have involved collaboration between colleges and high schools to break down traditional barriers. These efforts may include the provision of college courses in high school, taught by specially

trained high school faculty, with related college credit agreements for participating students (e.g., Syracuse University's Project Advance). Or a college and high school(s, may jointly create and run a separate institution, enrolling tenth or eleventh graders for a period of years ending in receipt of a degree or transfer to a regular college (e.g., Matteo Ricci College, a joint project of Seattle Preparatory School and Seattle University).

Rather than describe these national and local programs in detail, we will look at two major roles state agencies have played in acceleration.

- By far the most frequent type of state involvement in acceleration has been the creation of policies to allow and encourage various acceleration options. Many state departments of education reported some kind of policy to allow joint enrollment and early graduation or early exit with a diploma awarded subsequently. While most of these policies simply provide for local prerogative in making early graduation/exit decisions or in creating such programs, in a few states, the policy is more detailed. Tennessee's school approval requirements limit early admission to juniors with a 3.5 GPA in grades 9-11, an ACT score in the 95th percentile, endorsements from the principal, counseling staff and accepting college, and parental permission. Students leave following junior year and receive senior year credit only after completing freshman courses approved by the high school as an appropriate substitute for graduation requirements. The Oklahoma Board of Regents allows provisional college admission to students enrolled less than full time at high school. They take college courses on campus under regular faculty, but are limited to a workload of 15 semester credit hours (with one high school course counting for three hours). Following graduation, students who meet a specified minimum GPA in the college courses may continue enrollment or transfer to another institution in the state system. The New York State Education Department recommends that jointly enrolled students be limited to five or six total courses. Early exit students may receive a state equivalency diploma upon completion of freshman year, or a local diploma if prior arrangements are made.

- Joint enrollment, also known as dual or cross-enrollment, is an increasingly popular option which presents an interesting policy problem: students whose time is divided between high school and college may become the object of competition between the institutions for state funds based on numbers of full time equivalent enrollments. In North Carolina, the State Board of Education and the Board of Community Colleges have agreed that a student who takes as many as three high school courses is counted as a full time equivalent, while the college receives a third of full time enrollment credit for each course the student takes on campus. Rhode Island's Joint Committee on Articulation recommended that all districts develop joint enrollment policies in cooperation with state colleges.

  The awarding of high school credit for college courses taken by high school students represents a similar issue, and one which concerns students directly. Under Georgia Board of Regents policy, a high school student may take some or all classes in college and

receive credit both for the high school diploma and college degree. The same holds in New York for college courses that parallel high school offerings. Tennessee's school regulations, on the other hand, allow no credit for college courses taken outside of the high school. In that state, college (or college-level) courses for high school credit must be conducted on the high school campus during the school day, and, like AP courses, are considered "a part of the school program" for all purposes.

Many other states have been clearing away obstacles to innovation and offering incentives. For instance, Florida's new legislation stipulates that, for non-remedial academic programs through which a student earns both high school and college credit, "student instruction time may be included in the count of full-time equivalent students of the high school at one-half the value of the program cost factor for grades 9 through 12...(and) as full-time equivalent students by universities and community colleges offering such instruction." The instruction must take place at the high school unless appropriate technical facilities are unavailable.

In addition, Florida high schools may claim an extra one-third full-time enrollment for each student scoring a three on an Advanced Placement exam. South Carolina's Superintendent has proposed that state-supported colleges and universities be required to offer advanced placement credit for South Carolina students scoring a three or higher on AP exams.

- Another kind of state-level support for acceleration has been the creation and funding of special honors programs for advanced students. Several state departments of education fund special institutes which select students to live for one summer on a college campus and study under the direction of college faculty or specially recruited high school teachers. These programs, some general and some focused on a specific academic area or the arts, offer a useful introduction to both the academic and social experience of college. States also fund and encourage local collaborative efforts to serve advanced students. For instance, Florida's Challenge Grant Program, funded by the state legislature, solicits proposals from local school districts for cooperative programs with a community or four-year college

  Two states, North Carolina and Louisiana, provide special year-round residential schools for advanced students. The North Carolina School of Science and Mathematics, established in 1978 by the General Assembly, enrolls juniors (and some "early admission" freshmen) into a two-year program concentrating on math and science and providing courses of unusual quality in the humanities as well. The limitations of summer programs and the importance of math and science excellence motivated the formation of the school. Concerns that the school would draw funds and excellent students and teachers away from regular high schools were mitigated by limiting enrollment and conceiving the school as an educational laboratory for the rest of the state. A variety of relationships with higher education institutions, involving both faculty and facilities, have been developed, although no formal affiliation with any single

college or university is permitted. Louisiana's School for Math, Science and the Arts is the second such school to be established in the country, and Virginia's Department of Education is currently studying the feasibility of a residential school. These schools have the chance to provide a new focus and setting for school-college collaboration in the development of curricular materials and instruction, just as the early intervention efforts described above have created a new opportunity for faculty interaction.

Linkage Strategy Eight: Feedback and Exchange.

Finally, state policy has a critical role to play in facilitating the flow of information and resources between schools and colleges. Many of the activities described throughout this report—definition of courses and competencies for college, outreach, acceleration, early intervention—have involved the exchanges of information, ideas, staff and facilities which are the basis of collaboration. Here we highlight a few state efforts designed especially to promote these exchanges.

Feedback refers to the provision of information from colleges to high schools on the academic performance of their former students. This information is absolutely critical if high schools are to improve their academic programs or form a working relationship with a college, yet it is all too rarely provided. The University System of Georgia runs a well-established feedback program which provides to principals a computerized report including: the number of students from the high school entering the university system, the percent of those who were required to take remedial courses, and the average high school GPA, freshman year GPA, quarter hours completed, and SAT scores of the students. Joint articulation committees in Colorado and Delaware have recommended the development of feedback programs. (Refer to Strategy Five for a description of Ohio State University's program.)

Professional exchange programs are ambitious, unusual, and of great potential benefit to high school and college staff and students. It is hard to imagine a better way for teachers to learn the conditions and expectations at the "other" level of education, to broaden and sharpen teaching skills, and to improve communication with their colleagues. In North Carolina, legislation has been introduced which would require high school teachers and education school faculty to switch places for two weeks in a year. Colorado's joint articulation committee has proposed a program in which college and university faculty, as part of their community service, would visit high schools to teach, provide technical assistance, and talk with students and staff.

A natural forum for the exchange of ideas and perspectives among high school and university faculty is a collaborative project within a discipline, such as Ohio State's early intervention project described above. Another example from Ohio is the Youngstown Writing Project, a joint activity of Youngstown State University and area schools to improve senior year composition skills. The project has involved teachers from both levels in designing an English IV curriculum. To do this, teachers enrolled in a special credit-bearing college course and were given stipend, tuition and books. In addition, high school teachers have participated in special institutes carrying graduate credit taught by the university faculty members

directing the program, and teachers and administrators from both levels have held weekend retreats. The program demonstrates the level of dialogue possible when adequate focus, support and incentive are provided to the staff involved.

The exchange of information on college preparation represents the area of greatest expansion in high school-college communication. Many states now provide much more than the standard guide to higher education in the state. As cooperative programs multiply and the flow of information increases, university systems will have to keep up with the demand. The University of Wisconsin System's report on its collaborative programs with schools is notable for its comprehensiveness in documenting, campus by campus, special programs to share facilities and staff and to offer preparation and admission assistance to special groups. Many states are turning to computers to make information accessible. The College Curriculum and Information Service of the New York State Department of Education is a computerized system housed in Albany and accessible by telephone and mail. It provides curricular information on the programs of study in all of the state's accredited institutions of higher education. The provision of information on the courses and competencies needed for college study, as we have seen, may take many forms. These are described in Chapter I.

III. GUIDELINES FOR STATES

The following guidelines focus on the process of establishing linkage at the state level between secondary and postsecondary education. Taken together, they describe a process which has been followed, with some variation, by many of the states which have been successful in implementing the linkage strategies that we have described so far in this report.

Many of these recommendations emerged from a three day visit to Ohio; numerous interviews there allowed time for focusing on the "hows" nd "whys" of that state's articulation efforts since 1980. Some guidelines were contained, explicitly or implicitly, in reports and other documents received from states that are actively developing or implementing linkages. Others were proposed by members of the project's advisory committee. A number of guidelines were suggested in the responses to the surveys sent to each state. Additional advice was gained from phone interviews with staff in several states considered for the case study.

These fifteen guidelines represent a proven policy-building process. We hope they will prove useful to those states considering a major venture to improve academic preparation for college, as well as those who have already embarked.

1. *Establish a joint committee with the committed representation of the state board of education, the statewide governing or coordinating agency for higher education, and others w o may be involved in forming and implementing policy.* This is essential to developing the coordinated policies on which successful implementation depends. States will vary in their choice of a specific structure to address the issues of articulation. Some will prefer to work through an existing commission or board; others will find it more feasible to create a special committee. The choice should be guided by the goal of a statewide focus on the issues. This is best achieved by representation of the relevant boards, agencies and institutions whose involvement will be needed to bring any resultant plans to fruition. As one dean of arts and science explained, "This kind of change requires a critical mass; one or only a few institutions cannot do it alone."

2. *The committee's work should focus on identifying problem areas, defining or redefining academic expectations for college preparation and designing strategies to maximize both the number and the diversity of students who can meet those expectations.* It is important not to oversimplify either the problems or the solutions. Quick and easy explanations for poor preparation for college abound, from short class periods to hedonistic value systems. To define the problem, most joint committees have performed brief studies or collected existing information on high school course offerings and staffing, course-taking patterns and college remedial efforts and expenditures. Additional information may be collected later in the process to determine the effects of possible recommendations on students, staffs, and institutions. The discussion of policy options, of course, should go beyond the questions of numbers to consider: a) what skills college-preparatory courses should teach and what competencies students should develop, b) how teachers can best be prepared to

teach such courses, c) how students will know what is expected of them, and d) what strategies may be necessary to ensure that previous equity gains are not diminished in the process.

3. *A strong commitment from both the chief state school officer and the state higher education executive officer is essential for beginning a state-level effort, and a close working relationship is a must for maintaining it.* Where such working relationships do not exist, the first step is simply to open a line of communication designed to create a foundation of trust. A suggestion offered more than once: "Take your counterpart to lunch." In several instances, the lunch was the first time the two leaders had met.

4. *Involve representatives of the groups who ultimately must act to implement the plans or resolve the problems of the linkage effort.* Among those represented on the articulation commission in Ohio, for example, were teachers, principals, university presidents, school board presidents, parents, deans, mathematics and English faculty, and teacher association leaders. In addition, directors of college admissions and of developmental education, secondary school counselors, and directors of local high school-college collaboratives presented testimony to the commission. Higher education involvement in both the planning and implementation phases must encompass the entire statewide system or the entire institution, not just the colleges of education. One higher education official explained that "education in this state is not a forced march. Without consensus," he continued, "they'll whip you every time, but make it [their pretended compliance] look wonderful."

5. *Bringing together people from secondary and higher education to work on commissions and task forces promotes diffusion of turf problems, and more positive communication to and between both levels.* It is easy to blame the other side Such blame can be either antagonistic or charitable ("Let me help you with your problem"). Both types are counterproductive. Locating and defining the scope of the problem is critical; it is equally important to resist searching for an ultimate cause and to keep working towards solutions. In Ohio, a well-worn phrase to describe this principle is "a joining of hands rather than a pointing of fingers."

6. *A linkage group should include significant representation from those outside the education profession.* Such members will provide a valuable alternative perspective to the vested, competitive interests of education professionals. This is crucial in facing issues involving budgets, jobs, and the quality of services. The business sector is a common source for such representatives and provides a valuable perspective on linkage issues as an "end user" of the "products" of the education system. Parents, grandparents and civic leaders are also included as lay members in many states.

7. *Different constituencies of educators, parents, business and community leaders must be actively involved in discussions about issues and proposed changes.* This will not happen simply because the groups have a

representative on the formal body that is debating such changes. These and other constituencies must be involved and consulted at a stage when recommendations have been formed, but not yet crystallized. Presenting a virtually finished product will close off valuable input and possibly doom implementation. Key figures in the process must bring the issues out to the school districts. In the words of one superintendent, "You cannot over-communicate." Creative communication must extend beyond the immediate education community. In Ohio, Rotary Clubs became a major vehicle for communication with the larger community.

8. *Those who guide the progress of the effort must strike a delicate balance between the "ideal" and the "feasible," especially the financially feasible, as well as between the general and the specific.* The challenge is obvious. A strong case, succinctly made and skillfully planned, can generate resources and support needed for change where none existed before. The vision presented must be close enough to the ideal to inspire action, yet realistic enough to seem within reach. The process involves calculated risks, but recognizing those risks helps to ensure that adequate attention is paid to charting the desired course. The second challenge is to balance the general with the specific. Recommendations of a linkage committee must be specific enough to strengthen the resolve of those charged with carrying out changes that may be difficult or controversial. At the same time, the charge delivered to administrators must not dictate inappropriate details of implementation or usurp constitutional, statutory or administrative responsibilities of state or local education officials. The chair of one advisory council compared the need for latitude in implementation to the productive competition which resulted when Henry Ford divided his company into separate operating units.

9. *Chairmen of articulation committees should focus sharply on the process required to complete a committee's work.* Those who had held this responsibility did not rule out involvement in the issues by the chairman, but they stressed the critical nature of a chairman's responsibility for process. One chairman described his role as that of an "engineer guiding a train, keeping it on track, knowing what the schedule says and where the stations are." A related question is whether to appoint one or more neutral chairmen (clearly representing neither secondary nor higher education interests), or two co-chairmen, one representing secondary, and one higher education. While having co-chairmen can work to intensify the dialogue between sectors, their leadership can be undermined by a feeling that they must represent or mediate all the viewpoints of their respective sectors of education. Most states have opted for neutral chairmen as a way of extending the perspective of the committee.

10. *The articulation committee must have definite goals and a limited timetable for accomplishing them.* Whether the committee is inaugurated with a specific charge or whether its role is more open-ended, work must soon move from initial discussion

of the problems to identification and examination of possible goals and strategies for action. The timetable must anticipate the optimal time during the year for schools and colleges to consider the recommendations of the committee. For example, action recommendations will receive better attention if they are released well in advance of the close of a school year. In Ohio, the commission's report gained little attention when it was released in April, then suddenly received more notice in September, when new requirements seemed imminent.

11. *The linkage effort must be provided with adequate staff support from each agency, and the staff assigned must be committed to the concept and work well together.* As with all such committees, the quality of the final product will be affected by the support provided to members as well as by their commitment. One state superintendent viewed the staffing of the articulation committee as a case of needing "top people for a top assignment." In his state, the day-to-day coordination between staff of the two agencies advanced far beyond anything achieved in the past.

12. *Develop a positive relationship with the media in order to facilitate coverage of progress made.* Media coverage of a process as untidy as articulation between secondary and higher education may, as one dean put it, "turn up the confusion level." In his state, draft proposals appeared in the newspaper as accomplished facts. Yet media coverage will increase understanding of and support for the linkage effort so that implementation of the final product begins from a strong base of support. As the chair of Ohio's articulation committee noted, "Ideas must become community property so that everyone owns them." A principal from that same state advised, "Better to let people know what you're going to do to them before you do it and why." Information provided to the media should be formulated and timed for optimum effect. For example, those with administrative responsibility for implementing changes must be informed in advance so as to be better prepared for the questions which will follow formal announcement to the media.

13. *During presentation and implementation of recommended changes, maintenance of a united front by secondary and higher education officials is critical.* "People involved have to know they're going to catch some flak," advised a superintendent serving on a state council appointed to implement recommendations of an articulation commission. Those who disagree with a particular recommendation may attempt to play on the style or turf differences between the two levels. Public agreement between representatives of the two levels will go far toward diffusing this strategy, and require opponents to focus more sharply on substantive concerns or criticisms. At times, forceful public statements may be required of officials implementing changes. Collaborating agencies must take care that such statements are reasonably shared so that no agency "takes the heat" too fre-

quently. Ohio officials describe their strategy as one of "consistent, calm and closely coordinated responses from both agencies." The degree of coordination was so high that when the state superintendent and chancellor jointly addressed the state legislature on the subject of articulation, they didn't even rehearse. Their agreement was already well established.

14. *A reasonable phase-in period must be allowed for implementing changes in course or skill requirements or recommendations for admission to college.* Enough time must be allowed for high schools to revise offerings as needed, for counselors to advise students and parents of the changes, and for students to adjust their schedules. Several districts in Ohio quickly reached the point where increased enrollments in some courses in response to new standards necessitated major staffing reallocations, including hiring of additional teachers.

15. *Teachers and faculty involved in articulation activities, especially such time-consuming projects as revamping a curriculum and adjusting teaching techniques, should be offered practical benefits as an incentive for their work.* College faculty should receive recognition for their efforts comparable to that provided for other community work. Several types of incentives can be offered to secondary teachers, for whom the problems of inadequate time and support services for such projects are especially severe. Graduate credit or tuition payment for in-service work, release time, a stipend or other support for their additional professional responsibilities are examples. While the opportunity to be consulted on policy issues may provide its own intrinsic reward, the extra responsibility assumed by teachers involved must be recognized and compensated.

TABLE I
COURSES FOR COLLEGE ADMISSION: 1983 STATE ACTIONS

State	Action	Courses								
		For Class of	English	Mathematics	Science	Soc. Studies	For. Language	Arts	Computer	Additional Academic
Arkansas	Department of Higher Education considering requirements for admission:	90	4	2	2	3	2		½	
Arizona*	Board of Regents adopted requirements for admission:	87	4	3	2	2				
Colorado*	Joint committee of Department of Education and Commission on Higher Education recommended guidelines for universities and colleges (not yet approved):		4	3	3	3	2		1	
Florida	Legislature mandated requirements for Florida Scholar Certificate:									
	— foreign language:	87					2			
	— other (new diploma levels for all students):	87	4	3	3	3		½		
Idaho*	State Board (joint) considering admission requirements:	88	4	3	3	2-3				½
	Commission on Excellence had recommended similar requirements:	89	4	3	3	3	3			1
Kentucky*	Commission on Higher Education adopted requirements for admission (State Board subsequently adopted similar graduation requirements):	87	4	3	2	2	( )	( )	( )	
Massachusetts	Board of Regents adopted requirements for admission, pending public review:	87	4	3	2	2	2			3
Mississippi	Board of Trustees adopted requirements for admission:	86	4	3	3	2½	(2)		( )	1
Ohio*	Advisory Commission (State Board and Board of Regents) guidelines for admission being implemented by public and private institutions:	83+	4	3	3	3	2			
Oregon*	State System of Higher Education adopted requirements for admission:	85	4	3	2	3				2
South Carolina*	Commission on Higher Education recommended guidelines for universities and colleges (State Board considering similar graduation requirements, minus foreign language):	88	4	3	2	3	2			1
South Dakota*	Board of Regents adopted requirements for admission:	87	4	2	3	3	2	½	½	

*Policy developed with significant cooperation between secondary and higher education representatives

( ) = recommended

TABLE II
COMPARISON OF NEW STATEWIDE ADMISSIONS POLICIES

State	Type & Status	Criteria	Exceptions
Arizona	Required minimum (adopted)	Courses, test scores in subjects *or* higher education credits; *and* class rank, GPA or test score.	Students lacking up to 2 units, to be remedied within year; 10% exception for promising students with special factors; alternate admissions for students 22 or older or out of school 2 years.
Arkansas	Required minimum (draft)	Courses	
Colorado	Recommended minimum (draft)	Courses	
Florida	Required minimum (adopted)	Courses	
Idaho	Required minimum (draft)	Courses	Provisional admission (with possible % limit) especially for minority and older students; alternate admission for students 22 or older or out of school 2 years.
Kentucky	Required minimum (adopted)	Courses (*or* test scores, to be set by institution if desired)	20% exception for older, accelerated, disadvantaged or other students (conditions set by institution)
Massachusetts	Required minimum as "framework" (adopted, pending public review)	Courses *and* sliding index relating SAT and rank inversely (2 indexes: universities and state colleges)	Exemption *from index only* for: students out of school 3 years; special needs students; disadvantaged students; and community college transfers (available seats to increase over 5 years).

State	Type & Status	Criteria	Exceptions
Mississippi	Required comprehensive (adopted)	Courses *and* test scores (scores vary by institution)	5% exception for high risk or talented with a minimum ACT; only students one unit short with a minimum ACT subtest or grade average in field (varies by institution); students 21 or older who complete 12 semester hours with C average; community college or other transfers with C average in specified course sequence.
Ohio	Recommended minimum (adopted, implementation started)	Courses	Any students who complete required make-up courses following admission
Oregon	Required comprehensive (adopted)	Courses, achievement tests *or* collegiate summer credits	Students from schools with limited offerings (until fall '87); '85 grads with scheduling problems; students lacking course(s), who achieve C average in college remedial course(s).
South Carolina	Recommended minimum (adopted)	Courses	
South Dakota	Required minimum (adopted)	Courses	

TABLE III
COLLEGE PREPARATORY CURRICULA: NEW STATE ACTIONS

State	Action	Courses							
		For Class of	English	Mathematics	Science	Soc. Studies	For. Language	Arts	Computer
California*	State Board recommended "model" graduation requirements for all schools and students (approved as college preparatory by Legislature):		4	3	2	3	2	1	½
Delaware*	Joint committee of Department of Public Instruction and Postsecondary Education Commission recommended college preparatory curriculum:	87	4	3	3	3	3		½
Georgia*	Joint committee of State Board and Board of Regents recommended college-preparatory curriculum.		4	3	3	3	2		
Illinois	Board of Higher Education considering recommended college-preparatory curriculum.		4	4	4	4	2		
Kansas	Board of Regents recommended college-preparatory curriculum while maintaining open admissions:		4	3	3	3	2		
Louisiana*	Board of Regents recommended college-preparatory curriculum while maintaining open admissions:		4	3	3	3	3	1	
Montana	University System considering recommended college-preparatory curriculum:	88	4	3	3	3	2		
Rhode Island*	Joint committee of Boards of Regents and Governors adopted required courses for graduation of college-bound students:		4	3	2	2	2	½	½
Wisconsin*	Joint committee of Department of Public Instruction and University of Wisconsin System recommended college-preparatory curriculum.		4	3	3	3	2		

*Policy developed with significant cooperation between secondary and higher education representatives.

TABLE IV
SPECIAL DIPLOMAS: NEW STATE ACTION

State	Action	Courses							
		For Class of	English	Mathematics	Science	Soc. Studies	For. Language	Arts	
Florida	Legislature mandated requirements for Florida Scholar Certificate:	84	4	4	4	3	2	1	
New York	Board of Regents considering new requirements for Regents (college-preparatory) Diploma.	88	4	2	2	4	3	1	
North Carolina	State Board adopted special diplomas for B average and completion of specified courses:	84	4	4	3	3	2	1	
Oregon	State Board of Education considering honors diploma for 3.2 GPA and completion of specified courses.	88	4	3	3	4	2		
Virginia	State Board adopted advanced studies diploma (comes with special seal for B average or better as does regular diploma).	85	4	3	3	3	3		

TABLE V
COMPETENCIES FOR SUCCESS IN COLLEGE: PLANNED STATE ACTIONS

1. Competency statements have been fully or partly developed in these states (see Linkage Strategy Three above for descriptions):

California	New Jersey	Texas
Colorado	Ohio	Wisconsin
Kentucky	Louisiana	

2. Efforts to define competencies are planned in:

Delaware	The joint Statewide Curriculum Committee, which recommended a college preparatory curriculum, called on the three state postsecondary institutions to develop cooperatively a statement of skills and standards needed for admission.
Iowa	A new Joint Committee on Articulation (Department of Public Instruction and Board of Regents) has endorsed the College Board competencies and may recommend steps towards refinement and implementation.
Illinois	The State Board is developing a new set of outcome goals for all students in fundamental areas of learning, which may address college preparation. Also, the Board of Higher Education's recommended course sequence for college is described as a starting point for additional development."
Nevada	A new Joint Council on College Preparation (State Board and Board of Regents) plans a statement to students and parents on college planning and a definition of course contents and competencies for use of high school staff.
New York	The Regents' Statewide Plan calls for postsecondary institutions by 1986 to agree on and describe competencies and subject matter needed for college study, in conjunction with the current Regents' review of goals for K-12 education.
Oregon	A joint ad hoc committee will work during the 1983-84 academic year to define the content and objectives of the new courses required for admission by the State System of Higher Education to state institutions.
Rhode Island	An ad hoc committee of admissions directors from the three state institutions has been formed to review standards in light of the Joint Committee recommendation that colleges identify both courses and competencies needed for admission.
Tennessee	The Board of Regents' Task Force on Teacher Education endorsed the College Board competencies and called on the Regents and the State Board to form a joint committee to review curricula, requirements, and teacher training accordingly.
Washington	A Statewide Committee on Educational Quality, involving principals, deans, provosts, and agency staff, is identifying competencies in English and mathematics essential for entering freshmen. A new Joint Committee on Articulation (Council for Postsecondary Education and State Boards for K-12 and community colleges) is coordinating various activities.

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APPENDIX A
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Carnegie High School Study
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Washington, D.C. 20036
(202) 387-7200

THE COLLEGE BOARD
Office of Academic Affairs
888 Seventh Avenue
New York, NY 10106
(212) 582-6210

COUNCIL FOR THE ADVANCEMENT AND SUPPORT OF EDUCATION
Mindpower Campaign
11 Dupont Circle, NW, Suite 400
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COUNCIL OF CHIEF STATE SCHOOL OFFICERS
K-12—Postsecondary Education Collaboration Project
Hall of the States, Suite 379
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EDUCATION COMMISSION OF THE STATES
1860 Lincoln Street
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NATIONAL ACTION COUNCIL FOR MINORITIES IN ENGINEERING
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NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES
Urban University School Collaborative
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NATIONAL ENDOWMENT FOR THE HUMANITIES
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ARKANSAS
State Department of Education
Little Rock, AR 72201
(501) 371-1464

CALIFORNIA
State Department of Education
721 Capitol Mall, Room 524
Sacramento, CA 95814
(916) 445-4338

COLORADO
State Department of Education
201 E. Colfax Avenue, #523
Denver, CO 80203
(303) 839-2212

CONNECTICUT
State Department of Education
P.O. Box 2219
Hartford, CT 06106
(203) 566-5061

DELAWARE
State Department of Public Instruction
P.O. Box 1402
Townsend Building
Dover, DE 19901
(302) 736-4601

DISTRICT OF COLUMBIA
District of Columbia Public Schools
415 12th Street, NW
Washington, DC 20004
(202) 724-428[illegible]

FLORIDA
State Department of Education
The Capitol, Room PL 116
Tallahassee, FL 32301
(904) 487-1785

GEORGIA
State Department of Education
State Office Building
Atlanta, GA 30334
(404) 656-2800

GUAM
Department of Education
P.O. Box DE
Agana, GU 96910
OS 477-8975

HAWAII
State Department of Education
P.O. Box 2360
Honolulu, HI 98604
(808) 548-6405

IDAHO
State Department of Education
650 West State Street
Boise, ID 83720
(208) 334-3300

ILLINOIS
State Board of Education
100 North First Street
Springfield, IL 62777
(217) 782-2221

INDIANA
State Department of Public Instruction
State House, Room 229
Indianapolis, IN 46204
(317) 232-6612

IOWA
State Department of Public Instruction
Grimes State Office Building
Des Moines, IA 50319
(515) 281-5294

KANSAS
State Department of Education
120 East Tenth Street
Topeka, KS 66612
(913) 296-3201

KENTUCKY
State Department of Education
1725 Capitol Plaza Tower
Frankfort, KY 40601
(502) 564-4770

LOUISIANA
State Department of Education
P.O. Box 44064
Baton Rouge, LA 70804
(504) 342-3602

MAINE
Department of Educational and Cultural Services
State House
Augusta, ME 04333
(207) 289-2321

MARYLAND
State Department of Education
200 West Baltimore Street
Baltimore, MD 21201
(301) 659-2200

MASSACHUSETTS
State Department of Education
Quincy Center Plaza
1385 Hancock Street
Quincy, MA 02169
(617) 727-5700

MICHIGAN
State Department of Education
P.O. Box 30008
115 West Allegan Street
Lansing, MI 48909
(517) 373-3354

MINNESOTA
State Department of Education
712 Capitol Square Building
550 Cedar Street
St. Paul, MN 55101
(612) 296-2358

MISSISSIPPI
State Department of Education
Post Office Box 771, High Street
Jackson, MS 39205
(601) 359-3513

MISSOURI
Department of Elementary and Secondary Education
P.O. Box 480
Jefferson State Office Building
Jefferson City, MO 65102
(314) 751-4446

MONTANA
State Office of Public Instruction
State Capitol
Helena, MT 59620
(406) 449-3654

NEBRASKA
State Department of Education
P.O. Box 94987
301 Centennial Mall South
Lincoln, NE 68509
(402) 471-2465

NEVADA
State Department of Education
400 West King Street
Capitol Complex
Carson City, NV 89170
(702) 885-3100

NEW HAMPSHIRE
State Department of Education
410 State House Annex
Concord, NH 03301
(603) 271-3144

NEW JERSEY
State Department of Education
225 West State Street
Trenton, NJ 08625
(609) 292-4450

NEW MEXICO
State Department of Education
State Capitol
Santa Fe, NM 87503
(505) 827-6635

NEW YORK
State Department of Education
State Education Building, Room 111
Albany, NY 12234
(518) 474-5844

NORTH CAROLINA
State Department of Public Instruction
Education Building, Room 318
Edenton & Salisbury Streets
Raleigh, NC 27611
(919) 733-3813

NORTH DAKOTA
State Department of Public Instruction
State Capitol Building
600 Boulevard Avenue East
Bismarck, ND 58505-0164
(701) 224-2261

NORTHERN MARIANA ISLANDS
Commonwealth of the Northern Mariana Islands
Department of Education
Saipan, CM 96950
(OS) 9311/9812

OHIO
State Department of Education
65 South Front Street, Rm. 808
Columbus, OH 43215
(614) 466-3304

OKLAHOMA
State Department of Education
Oliver Hodge Memorial Education Building
2500 North Lincoln Boulevard
Oklahoma City, OK 73105
(405) 521-3301

OREGON
State Department of Education
700 Pringle Parkway, SE
Salem, OR 97310
(503) 387-3573

PENNSYLVANIA
State Department of Education
333 Market Street, 10th Floor
Harrisburg, PA 17126
(717) 787-5820

PUERTO RICO
Department of Education
P.O. Box 759
Hato Rey, PR 00919
(809) 751-5372

RHODE ISLAND
State Department of Education
199 Promenade Street
Providence, RI 02908
(401) 277-2031

SOUTH CAROLINA
State Department of Education
1006 Rutledge Building
1429 Senate Street
Columbia, SC 29201
(803) 758-3291

SOUTH DAKOTA
Department of Education and Cultural Affairs
Division of Elementary and Secondary Education
Pierre, SD 57501
(605) 773-3243

TENNESSEE
State Department of Education
100 Cordell Hull Building
Nashville, TN 37219
(615) 741-2731

TEXAS
Texas Education Agency
201 East 11th Street
Austin, TX 78701
(512) 475-3271

UTAH
State Department of Education
250 East Fifth South
Salt Lake City, UT 84111
(801) 533-5431

VERMONT
State Department of Education
State Street
Montpelier, VT 05602
(802) 828-3135

APPENDIX C
STATEWIDE COORDINATING AGENCIES FOR HIGHER EDUCATION

ALABAMA
Commission on Higher Education
One Court Square, #221
Montgomery, Alabama 36917
(205) 269-2700

ALASKA
Alaska Commission on Postsecondary Education
Pouch FP
Juneau, Alaska 99811
(907) 465-2854

ARIZONA
State Board of Regents
1535 West Jefferson
Phoenix, Arizona 85007
(602) 255-4082

ARKANSAS
Department of Higher Education
1301 West 7th Street
Little Rock, Arkansas 72201
(501) 371-1441

CALIFORNIA
California Postsecondary Education Commission
1020 12th Street
Sacramento, California 95814
(916) 445-7933

COLORADO
Commission on Higher Education
Colorado Heritage Center
1300 Broadway, 2nd Floor
Denver, Colorado 80203
(303) 866-4034

CONNECTICUT
Board of Governors
61 Woodland Street
Hartford, Connecticut 06105
(203) 566-5766

DELAWARE
Delaware Postsecondary Education Commission
Carvel State Office Building
820 French Street
Wilmington, Delaware 19801
(302) 571-3240

DISTRICT OF COLUMBIA
Office of Postsecondary Research and Assistance
1331 H Street, NW, #600
Washington, DC 20005
(202) 727-3685

FLORIDA
State Department of Education
Knott Building
Tallahassee, Florida 32301
(904) 488-0816

GEORGIA
Regents of the University System
244 Washington Street, SW
Atlanta, Georgia 30334
(404) 656-2200

HAWAII
University of Hawaii
2444 Dole Street
Honolulu, Hawaii 96822
(808) 948-8207

IDAHO
State Department of Education
Len B. Jordan Bldg., #307
650 West State Street
Boise, Idaho 83720
(208) 334-2270

ILLINOIS
Board of Higher Education
500 Reisch Building
4 West Old Capitol Square
Springfield, Illinois 62701
217) 782-2551

INDIANA
Commission for Higher Education
143 West Market Street
Indianapolis, Indiana 46204
(317) 232-1900

IOWA
State Board of Regents
Lucas State Office Building
Des Moines, Iowa 50319
(515) 281-3934

VIRGIN ISLANDS
Department of Education
P.O. Box 66401
Charlotte Amalie
St. Thomas, VI 00801
(809) 774-2810

VIRGINIA
Department of Education
P.O. Box 6-Q
Richmond, VA 23216
(804) 225-2023

WASHINGTON
State Department of Public Instruction
Old Capitol Building, FG-11
7510 Armstrong Road
Tumwater, WA 98504
(206) 753-6717

WEST VIRGINIA
State Department of Education
1900 Washington Street
Building B, Room 358
Charleston, WV 25305
(304) 348-3644

WISCONSIN
State Department of Public Instruction
125 South Webster Street
P.O. Box 7841
Madison, WI 53707
(608) 266-1771

WYOMING
State Department of Education
Hathaway Building
Cheyenne, WY 82002
(307) 777-7673

KANSAS
Board of Regents
Merchants National Bank Tower
800 Jackson, #1416
Topeka, Kansas 66612-1251
(913) 296-3421

KENTUCKY
Council on Higher Education
W. Frankfort Office Complex
U.S. 127 South
Frankfort, Kentucky 40601
(502) 564-3553

LOUISIANA
State Board of Regents
161 Riverside Mall
Baton Rouge, Louisiana 70801
(504) 342-4253

MAINE
University of Maine
107 Main Avenue
Bangor, Maine 04401
(207) 947-0336

MARYLAND
State Board for Higher Education
16 Francis Street
Annapolis, Maryland 21401
(301) 269-2971

MASSACHUSETTS
Massachusetts Board of Regents
1 Ashburton Place, #619
Boston, Massachusetts 02108
(617) 727-7785

MICHIGAN
H.E. Management Services
P.O. Box 20003
Lansing, Michigan 48909
(517) 373-3820

MINNESOTA
Higher Education Coordination Board
550 Cedar Street, #400
St. Paul, Minnesota 55101
(612) 296-9665

MISSISSIPPI
Board of Trustees of State Institutions of Higher Learning
P.O. Box 2336
Jackson, Mississippi 39205
(601) 982-6611

MONTANA
Montana University System
33 South Last Chance Gulch
Helena, Montana 59620
(406) 449-3024

NEBRASKA
Nebraska Coordinating Commission for Postsecondary Education
301 Centennial Mall South
P.O. Box 95005
Lincoln, Nebraska 68509
(402) 471-2847

NEVADA
University of Nevada System
405 Marsh Avenue
Reno, Nevada 89502
(702) 784-4901

NEW HAMPSHIRE
New Hampshire Postsecondary Education Commission
61 South Spring Street
Concord, New Hampshire 03301
(603) 271-2555

NEW JERSEY
Department of Higher Education
225 West State Street
Trenton, New Jersey 08625
(609) 292-4310

NEW MEXICO
Board of Educational Finance
1068 Cerrillos Road
Santa Fe, New Mexico 87503
(505) 27-8300

NEW YORK
Board of Regents, University of the State of New York
State Education Department
Albany, New York 12224
(518) 474-5851

NORTH CAROLINA
University of North Carolina
General Administration
P.O. Box 2688
Chapel Hill, North Carolina 27514
(919) 962-6981

NORTH DAKOTA
Board of Higher Education
State Capitol Building
Bismarck, North Dakota 58505
(701) 224-2960

OHIO
Board of Regents
State Office Tower
30 East Broad Street
Columbus, Ohio 43215
(614) 466-6000

OKLAHOMA
State Regents for Higher Education
500 Education Building
State Capitol Complex
Oklahoma City, Oklahoma 73105
(405) 521-2444

OREGON
Oregon Educational Coordinating Commission
225 Winter Street, NE
Salem, Oregon 97310
(503) 378-3921

PENNSYLVANIA
State Department of Education
333 Market Street
Harrisburg, Pennsylvania 17108
(717) 787-5041

PUERTO RICO
Council on Higher Education
Box F, UPR Station
San Juan, Puerto Rico 00931
(809) 765-6590

RHODE ISLAND
Board of Governors for Higher Education
199 Promenade Street, #208
Providence, Rhode Island 02908
(401) 277-6560

SOUTH CAROLINA
Commission On Higher Education
1429 Senate Street, #1104
Columbia, South Carolina 29201
(803) 758-2407

SOUTH DAKOTA
Board of Regents
Richard Kneip Building
Pierre, South Dakota 57501
(605) 773-3455

TENNESSEE
Tennessee Higher Education Commission
501 Union Building, #300
Nashville, Tennessee 37219
(615) 741-3605

TEXAS
Coordinating Board, Texas College and University System
P.O. Box 12788, Cap. Stat.
Austin, Texas 78711
(512) 475-4361

UTAH
State Board of Regents
807 East South Temple, #204
Salt Lake City, Utah 84102
(801) 533-5617

VERMONT
Vermont State Colleges
P.O. Box 359
Waterbury, Vermont 05676
(802) 241-2520

VIRGINIA
State Council for Higher Education
James Monroe Building
101 North 14th Street
Richmond, Virginia 23219
(804) 225-2600

WASHINGTON
Council for Postsecondary Education
908 East Fifth Street
Olympia, Washington 98504
(206) 753-3241

WEST VIRGINIA
West Virginia Board of Regents
950 Kanawha Boulevard, East
Charleston, West Virginia 25301
(304) 348-2101

WISCONSIN
University of Wisconsin
1700 Van Hise Hall
Madison, Wisconsin 53706
(608) 262-2321

WYOMING
Wyoming Coordinating Council for Postsecondary Education
c/o Community College Comm.
1720 Carey Avenue, Boyd Building
Cheyenne, Wyoming 82001
(307) 777-7763

APPENDIX D
ADVISORY COMMITTEE TO THE PROJECT

Hon. Polly Baca Barragan
State Senator, Colorado

Dr. Robert D. Benton
Superintendent of Public Instruction, Iowa

Dr. G. Wayne Brown
Executive Director
Tennessee Higher Education Commission

Mr. Kenneth V. Hilton
Member
Delaware State Board of Education

Mr. Douglas W. Hunt
Associate Executive Director
National Association of Secondary School Principals

Dr. Richard T. Ingram
Executive Vice President
Association of Governing Boards of Universities and Colleges

Dr. David C. Smith
Dean, College of Education
University of Florida

Ex Officio

Dr. Adrienne Y. Bailey
Vice President, Academic Affairs
The College Board

Ms. Phyllis L. Blaunstein
Executive Director
National Association of State Boards of Education

Dr. William F. Pierce
Executive Director
Council of Chief State School Officers

State Education Research Center

The State Education Research Center is a joint nonprofit venture of the Council of Chief State School Officers and the National Association of State Boards of Education to provide high quality, cost-effective research assistance to state boards of education, chief state school officers and state education agencies.

The center is administered by NASBE and CCSSO, the two principal organizations representing state policymakers and administrators. The center selects and retains, on-call, the highest quality experienced specialists who fully understand all phases of state education research and other state educa- functions.

For additional copies of this booklet or for more information about the High School-College Linkage Project, write to the State Education Research Center, 701 North Fairfax Street, Suite #340, Alexandria, Virginia 22314. Telephone: (703) 684-4000.

NASBE

The National Association of State Boards of Education is a nonprofit, nonpartisan association serving state boards of education, the nation's highest-ranking citizen trustees for the public interest in elementary and secondary education. Members of the state boards of 47 states and 5 territories belong to NASBE.

The primary goals of the association are to strengthen lay leadership in education policymaking at the state level, to promote excellence and equity in the education of all youth, and to encourage citizen support for the vital tradition of free and common public education.

NASBE assists state education leaders by providing:

- Liaison with federal and Congressional offices and national organizations,
- Information and technical assistance on emerging education issues,
- Boardsmanship training to enhance leadership skills of state board members,
- Research assistance to boards and individual board members,
- A codification service for state education policies,
- Interstate communication and cooperation through annual meetings and regional conferences.

CCSSO

The Council of Chief State Officers is a nonprofit organization comprised of the public official responsible for education in each state. State superintendents and commissioners of education in the 50 states, the District of Columbia, and six extra-state jurisdictions are the sole members of the Council.

Recognizing the responsibility of the states for leadership in education, the Council of Chief State School Officers (CCSSO) exists to help its members and their agencies fulfill their responsibilities as leaders in education. To accomplish this:

- The Council provides service and a means of cooperative action among its members to strengthen education through the work of state education agencies.
- It seeks its members' consensus on major education issues and expresses their views to the public, to civic and professional organizations, to federal agencies and to Congress.
- The Council conducts special projects which address problems of concern at the state level. Research and resources developed through the Council are targeted to improve educational opportunities for each student.
- Seminars, educational travel and special study programs, which provide opportunities for the professional growth of chief state school officers and their top management teams, are coordinated by the Council.