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ABSTRACT

This paper discusses ways that institutions can change the higher education system and environment to accommodate more minority students. The first section, "Institutional Climate and Minority Achievement," presents an overview of the problems facing colleges and universities with respect to recruiting and retaining minority students. In the second section, "Interventions: the Visible Evidence of Organizational Culture," three stages of intervention strategies for increasing diversity are discussed. The following types of interventions characterize stage 1: (1) student recruitment; (2) financial aid; and (3) admissions and scheduling. The following types of interventions characterize stage 2: (1) outreach programs; (2) transition programs; (3) mentoring and advising; (4) environment; and (5) residence halls. The following types of interventions characterize stage 3: (1) student assessment; (2) learning assistance; and (3) curriculum content. In the third section, "Managing Organizational Culture," the following topics are discussed: (1) strategic planning; (2) coordination and control; (3) increasing staff diversity; and (4) faculty incentives and support. The fourth section, "Assessing Outcomes as Indicators of Organizational Culture," analyzes minority participation and achievement data for 20 institutions. The patterns exhibited by these institutions are discussed, and it is suggested that the following distinct organizational culture structures exist: (1) adaptive; (2) strategic/adaptive; (3) reactive/strategic; and (4) reactive. Seven tables are included. A list of 10 references is included. (JS)

MINORITY ACHIEVEMENT
COUNTING ON YOU

Institutional Climate and Minority Achievement

INSTITUTIONAL CLIMATE

AND

MINORITY ACHIEVEMENT

by

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This is the second in a series of papers prepared for the Education Commission of the States (ECS) National Task Force on Minority Achievement in Higher Education. It draws upon an ongoing five-year study being conducted by the National Center for Postsecondary Governance and Finance with funding from the Office of Educational Research and Improvement (OERI) of the U.S. Department of Education (ED). The opinions expressed in the paper do not necessarily reflect the position of the OERI/ED and no official endorsement should be inferred.

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The Education Commission of the States is a nonprofit, nationwide interstate compact formed in 1965. The primary purpose of the commission is to help governors, state legislators, state education officials and others develop policies to improve the quality of education at all levels. Forty-nine states, the District of Columbia, American Samoa, Puerto Rico and the Virgin Islands are members. The ECS central offices are at 1860 Lincoln Street, Suite 300, Denver, Colorado 80295. The Washington office is in the Hall of the States, 444 North Capitol Street, Suite 248, Washington, D.C. 20001.

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Institutional Climate and Minority Achievement

In 1986 more than eight out of every 10 students attending an American college or university were Anglo. In that same year the Anglo enrollment in public schools was about seven in 10. By 2020 the proportion of Anglo school children will decline to one of every two.[1] Despite the message in these changing demographics, predominantly Anglo four-year colleges and universities were serving proportionately fewer minority students in 1986 than they were a decade earlier.

National statistics understate the magnitude of the changes historically Anglo institutions of higher education must accommodate during the next quarter century. Eighty percent of the degrees earned by Black, Hispanic and American Indian students are awarded by 20% of the institutions, many of which have historically served a minority clientele.[2] Minorities are concentrated in institutions with the fewest resources from which they are less likely to graduate or transfer than their majority colleagues. Within public four-year institutions, responsibilities for educating minority citizens have not been equitably distributed. Many of the more selective institutions enroll small numbers of Black or Hispanic students and graduate relatively few of those they do enroll.

Colleges and universities are composed structurally of guild-like groupings of professionals whose allegiances are first to their disciplines. At best, the administrative priorities of the institutions where they are employed are a distant second.[3] Changing colleges and universities from within is a difficult and time-consuming task. Changing them from outside risks unintended consequences and leads most commonly to token compliance. Experiences with affirmative action during the past quarter century provide rich evidence of the range of possible problems in both approaches.

Partly because of the well-deserved reputation colleges and universities have for resisting to change, initial efforts to make the institutions more responsive to Blacks, Hispanics and American Indians emphasized strategies to remove barriers to participation.[4] Financial aid was developed to remove economic barriers. Race and ethnicity were prohibited as admissions criteria to end discrimination, and open-access institutions were created to provide everyone with the opportunity to attempt higher education. Those who designed these strategies assumed they would, within a reasonable period of time, equalize educational opportunities. To understand why the results of these strategies have been disappointing requires some knowledge of race- and ethnicity-related differences among potential college students.

Interviews with Black, Hispanic and American Indian graduates of 10 historically Anglo colleges and universities identified four key variables contributing to academic success: preparation, belief in the value of higher education,[5] part-time versus full-time attendance, and the presence of a critical mass of students of a similar race/ethnicity.[6] Participation includes academic background as well as

accurate information about the cognitive, physical and social demands of a college experience. Preparation depends upon the curriculum and rigor of schools attended and upon access to parents or peers who can model or describe successful college-going behavior. Belief in the value of higher education is fostered by accepting the link between college and a rewarding career. Part-time versus full-time attendance is influenced by income, residence, work and family responsibilities. Blacks, Hispanics and American Indians are distributed differently than Anglos along each of these variables.

Black and Hispanic youth have reading and writing skills substantially below those of Anglo children and are far more likely to drop out of school, especially in the inner cities. Those who do graduate are significantly more likely to attend college after intervening military or work experience. Because proportionately fewer plan to go to college while attending high school, they are less likely to have taken appropriate courses. Because more attend as adults, the proportions with family and job responsibilities are greater.

Hispanic and Black children represented one-quarter of the 0-17 age group in 1984, but one-half of the children were in poverty. They were disproportionately more likely to live with mothers who had not completed high school. More than one-fourth of the Hispanic children in public elementary and secondary schools in 1983 spoke a primary language other than English in the home, compared with about 2% of all students.[7]

Colleges and universities, in collaboration with public schools, have responded to these differences with outreach programs. These programs instill beliefs in the value of higher education to encourage higher levels of participation and strengthen preparation so that more minorities will succeed. While outreach is extremely important, other interventions are also necessary to reduce the massive differences in educational attainments among adults of various racial and ethnic groups and to compensate for the serious economic, educational and social problems that plague many minority-dominant communities.

Because it will not be possible to change minority students or their communities fast enough to outrun exploding population demographics, institutions also must change. More must concern themselves with providing degree opportunities for adult, nontraditional college-goers, and all must do a better job of helping minorities graduate.

For any institution, the task involves helping more diversely prepared students reach specified levels of achievement. As long as more selective institutions search for well-prepared, traditional students, all but the most attractive colleges and universities will end up with fewer minorities than the numbers required to avoid a workforce and society stratified along racial and ethnic lines.

If institutions admit more diversely prepared students without changing their educational practices, graduation rates will plunge. If practices change without

quality-assurance measures, achievement will differ by race and ethnicity, precisely the problem public schools are working to correct. Anglo colleges and universities need to change their priorities, their educational processes and the criteria used to assess quality if they are to improve minority participation and graduation rates without relinquishing standards.

The concept of organizational culture provides a useful way of thinking about the kinds of changes institutions need to make and a process for making them. The culture of any organization consists of the assumptions and beliefs shared by its members.[8] Organizational culture develops as learned responses to the problem of maintaining effective relationships with external agencies--that provide essential resources--and the need to achieve a working consensus among those whose cooperation is essential to achieving institutional goals.[9]

The environment an institution provides for minority participation and achievement can be viewed as the observable product of an invisible culture. The analysis of outcomes related to minority participation and graduation yields clues to the nature of an institution's culture. The study of institutional interventions provides an index of the progress an institution has made in changing its culture to accommodate students who will make up the college-going population in 2025. The assessment of management strategies offers a way of evaluating the effectiveness of institutional leaders in using the tools at their disposal to reshape the cultures of their institutions.

The remainder of this paper discusses methods for assessing interventions, management strategies and outcomes, and suggests ways policy makers can use results to accelerate the institutional changes required to respond to changing population demographics.

Interventions: the Visible Evidence of Organizational Culture

Figure 1 depicts the process through which institutions adapt to improve participation and graduation rates for minority students.[10] When confronted with internal or external pressures to improve participation, institutions react in stage 1 by emphasizing recruitment, financial aid, waiver of admission standards and providing more convenient class offerings. The more diverse students admitted experience difficulties in meeting academic expectations developed for students with different precollege experiences.

To counter high attrition rates, institutions become more strategic in stage 2 by adopting more systematic interventions to change minority students so they are better able to cope with institutional expectations.

In stage 3, institutions realize they also must adapt their own programs and learning practices if they are to achieve the benefits of cultural diversity without relinquishing academic standards.

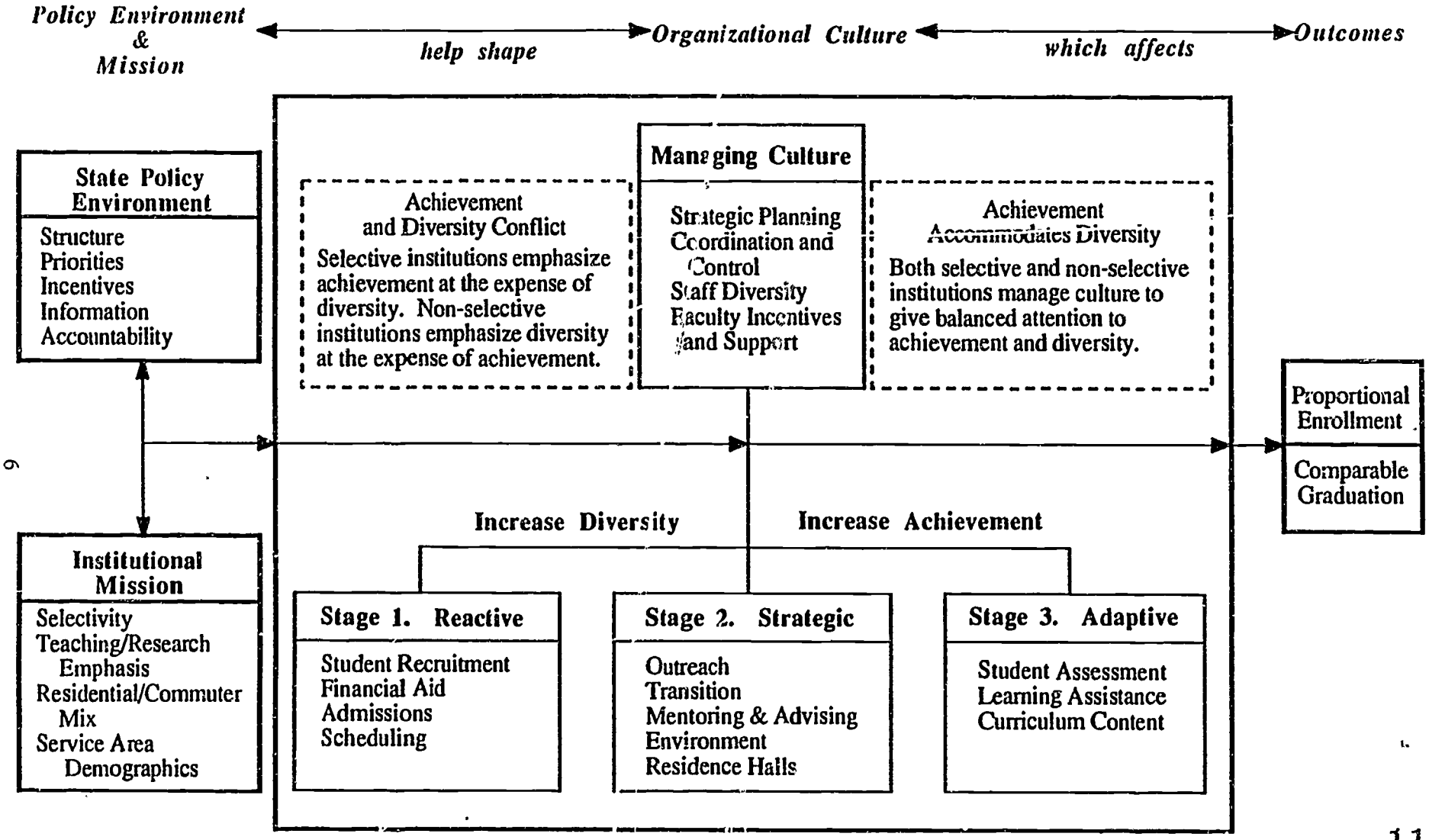
In the model, administrators and faculty leaders manage culture to ensure that institutions move through the three stages rather than remaining at an early stage where practices lead to a choice between diversity and student achievement rather than a commitment to both.

The experiences of 10 case-study institutions, chosen for their contributions to the nation's pool of college-educated Blacks, Hispanics and American Indians, were used as the basis for developing the three stages in the model.[11] Stage-1 interventions for increasing student diversity found among case-study institutions appear in Table 1. In this table, and the three that follow, Black or Hispanic or American Indian has been abbreviated as B/H/AI.

First-stage interventions are typically adopted as discrete responses to pressures for greater participation by minority students without any systematic planning effort. Little consideration is given to the characteristics of the available pool in relation to the environment the institution provides for student achievement. While stage-1 interventions create or magnify differences in achievement rates by attracting minority students whose characteristics are a mismatch for institutional cultures, they also increase the expectations of previously excluded groups by encouraging them to attend.

When expectations are frustrated by hostile environments or unyielding academic practices, students and their supporters turn to the political process. The resultant conflict and adverse publicity signal to institutional leaders the need to give higher priority to equity issues in order to restore the equilibrium essential to continuing support from political leaders.

A Model of Institutional Adaptation to Student Diversity*



* Student diversity has three major dimensions: (1) preparation, (2) opportunity orientation and (3) mode of college-going. African Americans, Hispanics, and American Indians share these dimensions with other groups, but are distributed differently as a function of historic discrimination and socio-economic status.

TABLE 1

Interventions for Increasing Diversity

Activity	Examples
Student Recruitment	High schools with high concentrations of B/H/AI students are priority targets for recruiting efforts.
	Current B/H/AI students participate in institutional recruiting efforts.
	B/H/AI students are recruited through the personnel and training offices of employers.
	Outreach staff provide community college transfer students with accurate and timely advice about course planning, financial aid and other transfer requirements.
Financial Aid	College staff conduct workshops in high schools for B/H/AI students and their parents.
	College staff help prospective B/H/AI students fill out financial aid forms.
	Institutions use resources to fund need-based financial aid for B/H/AI students.
	B/H/AI students receive a proportional share of scholarships based on merit.
Admissions and Scheduling	Undergraduate admission standards are frequently waived to increase enrollments by B/H/AI students.
	Institution provides open admissions to one or more major academic units.
	Regular admission requires only a specified GPA or rank class for a prescribed distribution of high school classes.
	Admission to the institution is also admission to the major of choice.
	There is a concurrent or cross registration agreement with an institution enrolling a higher proportion of B/H/AI students.
	Classes are scheduled so that degrees can be earned through evening attendance only.

The second or strategic stage of institutional adaptation is characterized by more comprehensive and better coordinated interventions than those adopted in stage 1. Colleges and universities shift attention from activities designed to increase the institution's share of the existing pool of minority students to longer-term outreach and collaboration strategies. The latter are aimed at expanding the pool of minority high school graduates who have the preparation and values needed for college success.

In addition to efforts aimed at expanding the pool, institutions develop transition programs to help those who do not meet regular admission requirements overcome preparation deficiencies. Transition programs also reduce the shock of academic and cultural expectations which differ from those in the predominantly minority urban schools many minority students attend.

During stage 2, mentoring and advising help students link coursework and careers and encourages staff to identify academic problems early. There are also systematic efforts to help minority students feel more comfortable in the social environment through publications, cultural programs and providing designated gathering spaces. Institutions with residence halls use them to support their minority programming efforts.

Stage-2 interventions found among case-study institutions are summarized in Table 2. They serve two primary objectives. The first is to change students so that they become a better match for the institutional environment. The second is to change the environment, or buffer elements that cannot easily be changed, to make the institution less difficult to negotiate for students who differ in preparation, objectives or skin color from those traditionally served.

As in stage 1, stage-2 leadership comes largely from student affairs administrators. Stage 2 contributes to the adaptation of organizational culture by helping leaders recognize the need to change academic practices as well as student preparation. Stage 2 also contributes a core of minority professionals who are recruited as staff for the achievement interventions and to reduce the dissatisfaction of groups that feel culturally isolated by the absence of appropriate role models among faculty members and the administration.

Beyond lending the program expertise for which they were hired, minority professionals raise legitimate student concerns and aspirations in internal decision-making forums in ways that cannot easily be ignored. Perhaps even more important, they serve as linkages to the external political culture. Through providing accurate information about the gaps between current and desirable practices, they contribute to external pressures for higher minority enrollments and more graduates.

TABLE 2

Outreach and Student Support Interventions

Activity	Examples
Outreach	On-campus summer enrichment programs for B/H/AI junior high or high school students are conducted as part of an institutionwide outreach program.
	A professional program (e.g., engineering, business) provides instruction in mathematics, science, computers or communication skills, along with academic advising and summer enrichment for selected B/H/AI students in the 9th - 11th grades.
	A collaborative program with high schools identifies promising B/H/AI sophomores, juniors and seniors and strengthens their college readiness through academic enrichment, advising, tutoring and instruction in test-taking skills.
	A collaborative program with a junior high school enrolling a high proportion of B/H/AI students provides academic advising, role model presentations, university visits and parental involvement.
Transition	A special access program provides outreach, counseling, financial support, special coursework and tutoring to a limited number of low-income/first-generation college students who do not meet regular admission requirements.
	First-time B/H/AI students in the same majors are advised into specified course sections to facilitate networking and mutual assistance.
	Most new students participate in an orientation program that emphasizes cultural sensitivity as part of its content.
	B/H/AI students are invited to participate in a special orientation "piggy backed" on regular orientation in which they work intensively with support staff.
	A summer bridge program provides newly admitted B/H/AI students with courses for college credit, tutorial assistance, study skills and assistance in making academic and career decisions.

TABLE 2 (Continued)

Outreach and Student Support Interventions

Activity	Examples
Mentoring and Advising	Students in danger of failing are identified by an early alert system and receive timely advising assistance.
	New students have immediate contact with the orientation and advising programs of their declared majors.
	"Intrusive" academic advising and mentoring is provided to all B/H/AI students for at least their first year of attendance.
Environment	A cultural center or B/H/AI student union provides a gathering place for underrepresented groups.
	Institutional publications emphasize the contributions and achievements of B/H/AI students.
	Campus social, cultural and educational organizations produce a year-long calendar of programs celebrating the international, multilingual and multicultural heritages of undergraduate students.
Residence Halls	B/H/AI students receive priority in residence halls.
	Residence halls provide special options or programming for B/H/AI students (e.g., all B/H/AI floors, B/H/AI scholars, etc.).
	A summer bridge program provides a residential experience to introduce newly admitted B/H/AI students to the institution and provides programs designed to enhance academic success.

Institutions enter a third or integrating stage of adaptation when leaders recognize that the efforts of student affairs professionals must be augmented by faculty involvement and changes in academic practices if an institution is to achieve balance between diversity and achievement. During stage 3, institutions identify differences in the preparation of entering students and establish appropriate expectations for progress to the upper division and graduation.

Comprehensive learning assistance programs and services become a part of the institutional commitment to all students rather than an intervention to accommodate a special clientele. The curriculum is revised to place appropriate emphasis on the contributions of minority cultures to American life. All students are encouraged or required to develop sensitivity to the minority experience.

The attention focused on providing programs and services according to student need rather than race or ethnicity is a distinguishing characteristic of stage-3 strategies, as is the attempt to mainstream successful interventions. Institutions that achieve stage-3 outcomes have made sufficient progress toward meeting equity goals to turn their attention to the maintenance of the new equilibrium they have established between student diversity and achievement. Stage-3 interventions require intensive faculty involvement, signaling fundamental shifts in organizational culture.

Stage-3 institutions are predominantly multicultural in their composition and outlook and value their multicultural status as a strength. Multicultural case-study institutions, such as the University of Texas at El Paso, Florida International University and California State University-Dominguez Hills, have achieved greater success with Black, Hispanic and American Indian students partly because they already have confronted the reality that many other four-year institutions will face during the next quarter century. These institutions cannot succeed and survive unless their students, many of whom are minority, also succeed and survive.

The stage-3 interventions found among case-study institutions are synthesized in Table 3.

Relatively few institutions have reached stage 3 of the adaptation process. Most of these are located near population centers for the groups they serve. More teaching-oriented four-year institutions have made progress toward a new equilibrium than research universities or community colleges because there is less distance between the core values of such institutions and the blend of achievement and diversity strategies necessary for institutions to have both quality and access.

TABLE 3

Interventions Involving the Academic Program

Activity	Examples
Student Assessment	Admission requirements and assessment procedures ensure that students enrolling in entry-level classes have the academic competencies required for success.
	All students must pass an academic skills examination before achieving upper-division status.
Learning Assistance	Students identified as lacking the competencies required for entry-level courses receive appropriate instruction in basic skills, academic advising and tutoring.
	Tutoring is widely available to students who need it.
	Assistance with reading, writing and math skills is available on a walk-in basis.
	Instruction in study skills, note-taking and test preparation is provided to all students as needed.
	Departments offering prerequisite courses for admission to majors have developed approaches to avoid screening out disproportionate numbers of B/H/AI students.
	Students who need extra assistance in mastering beginning degree-credit skill courses can enroll in sections that provide extra hours of classroom instruction supplemented by tutoring and learning laboratories.
	Students who follow nontraditional patterns of attendance have access to an educational service center that provides counseling, developmental coursework, tutoring, critical reading and library research skills, time management and study skills.
	B/H/AI students of high scholastic ability participate proportionately in honors programs.
	B/H/AI undergraduates receive paid internships with faculty members conducting research.

TABLE 3 (Continued)

Interventions Involving the Academic Program

Activity	Examples
Curriculum Content	Courses in B/H/AI cultures are available to students who wish to take them as electives.
	All students must complete at least one course that focuses on sensitivity to minority cultures.

Managing Organizational Culture

Moving institutions through the three stages requires leaders to manage organizational culture. Movement is not automatic, nor is it irreversible. Institutions can stay in stage 1 or stage 2 long after they should have recognized and addressed the problems of these stages. R. M. Cyert identifies the most promising strategies for counteracting faculty preferences for the conventional as goal setting, focusing attention, rewards and information flow.[12] These general strategies for managing culture do not vary regardless of the nature of the goal.

The first requirement for improving minority participation and graduation rates has to be its definition as one of a small number of top institutional priorities. Few public institutions have the resources to pursue with observable results more than two or three priorities simultaneously. Institutional leaders can be aided in establishing equity concerns as an institutional priority by external planning and priority setting, inducements, mandates and accountability measures.[13]

Achieving priorities requires strategic planning and the allocation of scarce discretionary dollars. Where institutional leaders are serious about improving equity outcomes, both of these activities are in evidence. The availability and use of information is another important indicator of administrative commitment to managing culture to improve equity outcomes.

Institutions that lack or conceal information about current status and past trends for the minority students they serve are unlikely candidates for changing the conventions of past practice. Institutional leaders keep track of the information they consider important to the attainment of their priorities. Those committed to improving equity outcomes are familiar with the indicators of minority participation and achievement for their institutions.

Systematic efforts to alter culture to support minority achievement require better coordination, as do those directed toward strengthening research activity or reforming the undergraduate curriculum. Fragmented activities operating under competing jurisdictions are often found in stage-1 institutions. In stage 2, activities designed to enhance minority persistence are frequently coordinated by a single administrator. In stage 3, the need for improved coordination may lead institutions to mainstream successful interventions to integrate them better with the regular academic program. An important part of coordination, however implemented, involves establishing accountability procedures to assess progress toward objectives and to reward success and punish failure.

More successful institutions enhance planning activities striving to capture the focus of attention of current staff while using every possible opportunity to increase staff diversity. It is clearly important to modify the reward system to place greater emphasis on teaching and mentoring, but, as Cyert notes, it is difficult to tie the reward system as closely as desired to behavior.[14] Administrators can set an

example by including senior minority leaders among their own ranks. They also can adopt policies to increase the pool of potential minority faculty members and to enhance the number who are hired and tenured. Finally, administrators can use publications, speeches and workshops to increase faculty awareness of the issues and alternatives.

The strategies used by case-study institutions to manage cultures for improved equity are reported in Table 4. Institutions used all of the tools, but chose specific interventions based on their mission, selectivity and location.

The process through which institutions change to improve equity outcomes is, of course, not as neat as the preceding discussion suggests. The stages and management strategies were described as tools for helping institutions understand the factors that contribute to their outcomes for minority students, as well as the interventions they can consider in efforts to improve. The stages represent intermediate points in a journey rather than discrete classifications. Some institutions, by virtue of their mission and location, have further to go than others. Not all of the interventions are appropriate for all institutions.

Nevertheless, in any journey it is useful to have a road map that provides information about present location and the immediate actions required to reach an ultimate objective without unnecessary side excursions. The current location of any institution in terms of its equity strategies is a function of the nature and intensity of the interventions it has designed to improve minority participation and achievement, as well as the length of time those interventions have been in effect.

Interventions mirror efforts by institutional leaders to manage organizational culture. With assistance from the Office of Educational Research and Improvement (OERI) of the U.S. Department of Education, researchers at Arizona State University are currently involved in collecting information about the management strategies and interventions in use among 143 different public colleges and universities in 10 states.

The results of this study will provide normative data about distribution among the stages and test empirically the proposition that progress through these stages is positively related to strategies for managing culture and improvements in outcomes.

TABLE 4

Managing Organizational Culture

Activity	Examples
Strategic Planning	ecruiting and graduating more B/H/AI students is one of the three top priorities of campus administrators.
	Academic and support units have developed goals and action plans for hiring more B/H/AI staff.
	Academic and support units have developed goals and action plans for increasing enrollment and graduation rates for B/H/AI students.
	Resource allocation is tied to the strategic planning process.
	Unrestricted dollars are used to support interventions aimed at increasing enrollments and graduation rates for B/H/AI students.
Coordination and Control	Academic affairs and student affairs staffs work closely together in planning and implementing B/H/AI initiatives.
	A senior administrator has responsibility for coordinating all recruiting, advancement and retention programs for B/H/AI students.
	College and discipline-specific information on B/H/AI enrollment and graduation rates is routinely available.
	Senior administrators regularly monitor information about progress in increasing enrollment and graduation rates of B/H/AI students.
	Cohort survival studies provide persistence and graduation data disaggregated by race/ethnicity and by transfer/first time in college.
	Administrators meet regularly with community college counterparts to monitor the effectiveness of articulation policies.
	Cultural awareness sessions are held for administrators, faculty members and support staff.

TABLE 4 (Continued)

Managing Organizational Culture

Activity	Examples
Increasing Staff Diversity	B/H/AI administrators are a visible and influential part of campus leadership.
	Recruiting procedures for new faculty members require the best B/H/AI candidates be included during initial screening.
	New B/H/AI faculty are recruited through enriched salary offers, payment of moving expenses and released time from teaching to support research.
	Positions have been created to recruit B/H/AI "targets of opportunity" in fields where openings would not otherwise be available.
	B/H/AI research centers make joint appointments with academic departments. Positions revert to the center when the incumbent leaves the institution.
	B/H/AI graduate teaching assistants are aggressively recruited to increase the presence of these groups in the classroom.
	Targeted dissertation and post-doctoral fellowships are used to expand the pool of potential B/H/AI faculty.
Faculty Incentives and Support	Grants and released time encourage faculty members to develop strategies for improving student achievement.
	Advising, mentoring and good teaching are encouraged and rewarded.
	A mentoring program helps untenured B/H/AI faculty members meet requirements for tenure.
	A "grow-your-own" program supports promising B/H/AI doctoral students in high-demand fields on condition they teach for a specified period following completion.

Assessing Outcomes as Indicators of Organizational Culture

Against what standards should institutions be assessed in determining their contributions to state equity objectives? The Ohio Board of Regents has argued that the goals should be proportional enrollment and comparable achievement.[15] To argue otherwise requires defense of the proposition that race and ethnicity should be factors in determining who goes to college and where. Clearly such an argument would run counter to the 14th Amendment to the Constitution and Title VI of the Civil Rights Act of 1964.

Proportional enrollment occurs when minorities are as well represented in a college-going population as they are in the larger base from which that population is drawn. The base can be defined by state policy makers as the population of a state or a more restricted service area.

Comparable achievement occurs in an institution when minorities are as well represented among baccalaureate graduates as they are among undergraduate students. In the discussion that follows, equity scores for graduation were derived by dividing the proportion of Blacks and Hispanics in the 1980 and 1986 graduating classes by the proportion in the undergraduate student body four years earlier.[16] A graduation equity score of 100 indicates equity. A score of 50 suggests that Blacks or Hispanics were only half as likely to graduate as Anglo students for the period considered.[17]

For the period 1980-86, there were 224 predominantly Anglo institutions in which Blacks, Hispanics or American Indians represented at least 5% of the undergraduate enrollment. Blacks constituted 5% or more in 192 of the total, Hispanics 5% or more in 68 and American Indians 5% or more in 11. Forty institutions from this group had at least 5% Black and at least 5% Hispanic enrollments. These institutions represent the critical core in any effort to achieve greater equity. Table 5 provides information about the distribution of graduation equity scores for these institutions in 1986.

TABLE 5

Frequency Distributions of Graduation Equity Scores 1986:
Public Institutions with 5% or More of One Underrepresented Group

Graduation Equity Score	Blacks %	Hispanics %
Below 40	6.7	0
40 - 49	11.9	1.5
50 - 59	17.1	2.9
60 - 69	21.8	8.8
70 - 79	16.1	13.2
80 - 89	9.3	19.1
90 - 99	5.2	11.8
100 Equity	11.9	42.7

Institutions have experienced substantially greater success in graduating Hispanics than Blacks. Almost three-fourths of the majority institutions enrolling 5% or more Blacks had equity scores of 79 or less. The comparable figure for institutions serving Hispanics was only about a fourth. Nearly 43% of the institutions enrolling 5% or more Hispanics had achieved comparable graduation by 1986, compared with less than 12% of the institutions serving Blacks. Among institutions serving both Hispanics and Blacks at the 5% or higher level, the average graduation equity score for Hispanics was 83; for Blacks, 56.

Part of the reason for success with Hispanics may rest with the degree to which attrition for them occurs before college entry. However, the resulting underrepresentation in colleges and universities can explain only a small part of the total differences in graduation rates, especially since participation rates for Hispanics improved during this period while those for Blacks declined. Between 1980 and 1986, 61% of the institutions enrolling 5% or more Blacks reported declines in proportional enrollments, while only 12% of those enrolling 5% or more Hispanics reported similar results. Among state higher education officials there is substantially greater optimism about achieving equity for Hispanics than for Blacks.[18]

Estimates for participation and achievement were calculated using information institutions have been providing to the federal government since 1966, first through the Higher Education General Information Survey (HEGIS) and more recently through the Integrated Postsecondary Education Data System (IPEDS). This database, while not without its problems, has the advantage of permitting comparisons across institutions and tracking over time. Taken together, the two measures suggest a way of estimating the stage of adaptation to which an institution has progressed.

Table 6 reports enrollment and graduation trends among selected institutions serving 5% or more Blacks in either 1980 or 1986. Table 7 reports similar information for Hispanics.

The 224 majority public institutions most involved with educating minority citizens exhibited four distinctive patterns of equity trends between 1980 and 1986. The first included institutions that had achieved high graduation equity scores in 1980 and retained those scores in 1986. In the second pattern, institutions made dramatic gains in equity scores.

TABLE 6

Black Participation and Achievement:
A Comparison of Equity Outcomes For Selected Institutions
Using HEGIS Data

Institution	Graduation Equity Score		Percent Enrolled		Percent State
	1980	1986	1980	1986	1985
Clemson	100	100	2	6	30.3
Longwood College (VA)	100	100	5	9	19.1
U. of NC at Greensboro	100	100	11	11	22.2
Frostburg State (MD)	100	100	8	8	24.5
Auburn U. at Montgomery	100	100	15	14	26.2
Ramapo Col. of NJ	40	100	5	6	13.6
Citadel Mil. Col. of SC	62	100	3	7	30.3
James Madison U.	72	100	3	7	19.1
Southern Ill. U.	61	93	9	9	15.4
U.C.-Berkeley	55	83	4	5	7.9
Francis Marion Col. (SC)	100	58	12	15	30.3
Arkansas State U.	100	52	12	9	16.6
Florida State	98	50	10	7	13.8
Cal. State-San Bernardino	88	39	14	7	7.9
Glassboro State (NJ)	86	42	8	7	13.6
U. of Wis. Milwaukee	57	35	7	6	4.3
U. of Toledo	35	35	9	6	10.6
U. of Mich.-Dearborn	31	34	6	6	13.7
U. of Ill.-Chicago	52	30	18	10	15.4
Cal. State-Stanislaus	57	19	7	6	7.9

TABLE 7

Hispanic Participation and Achievement:
A Comparison of Equity Outcomes For Selected Institutions
Using HEGIS Data

Institution	Graduation Equity Score		Percent Enrolled		Percent State
	1980	1986	1980	1986	1985
Florida International	100	100	32	43	9.7
Western New Mexico	100	100	36	43	38.0
Jersey City State	100	100	13	19	7.6
U. of Texas-El Paso	100	100	44	54	22.5
Cal. State-Dom. Hills	100	100	10	11	22.3
SUNY-New Paltz	58	100	5	5	10.6
Cal. Poly-San Luis Obispo	69	100	4	7	22.3
U.C.-Berkeley	71	100	4	7	22.3
U.C.-Los Angeles	72	100	6	11	22.3
West Texas State	76	100	6	6	22.5
Cal. State-Northridge	100	75	9	9	22.3
Cal. State-Stanislaus	100	73	9	10	22.3
Tex. Womens U.	100	72	9	7	22.5
Adams State (Col)	96	68	17	25	11.9
U. of Nev.-Las Vegas	100	65	3	5	7.4
U. of Ill.-Chicago	72	70	9	9	6.5
San Jose State	64	60	9	7	22.3
NM Inst of Min & Tech	50	59	9	8	38.0
Angelo State	73	58	9	11	22.5
Metropolitan State (Col)	66	47	7	7	11.9

The third pattern involved institutions with equally dramatic losses. A fourth group consisted of institutions that exhibited very low equity graduation scores for both years. While the patterns are similar, the distribution of institutions among patterns as noted in Table 5 is very different for Blacks and Hispanics.

The patterns exhibited by these institutions suggest four distinct organizational cultures at work. The first five in both tables had achieved comparable graduation rates for both years. Institutions with comparable graduation rates for the minorities they enroll and enrollment proportions close to or exceeding the proportions within their respective states have achieved the outcomes associated with the adaptive stage of the model presented in Figure 1.

Institutions achieving high graduation equity scores in both years, or making significant gains during the six-year period without loss of enrollment proportions, illustrate the outcomes associated with the strategic/adaptive stage of the model. As examples, Clemson University, in Table 6, and University of California-Berkeley, in both tables, graduated high proportions of the minority students they enrolled. While the composition of their students remained significantly different from the composition of their states, the trends were positive. These results require strategic planning and careful coordination of institutional programs.

The outcomes typifying the reactive/strategic stage of the model are illustrated by the third group of institutions, all of which experienced significant declines in graduation equity scores between 1980 and 1986. Among institutions serving Blacks, these institutions also uniformly lost proportional enrollments.

A final group of institutions with low graduation equity scores for both 1980 and 1986 reflect the outcomes predicted by the reactive stage of model. Many of these institutions also reported losses in proportional enrollments; none gave evidence of significant gains. The model suggests that consistently poor results occur in majority institutions when improving graduation equity scores or proportional enrollments for minority students are not addressed in systematic ways as institutional priorities.

While care should be taken to avoid attributing too much importance to data now four years old, several observations drawn from the larger data base on which Tables 6 and 7 are based provide helpful insights. In California, most of the units of the University of California system reported results similar to UCLA and University of California-Berkeley, categorized as strategic/adaptive in the discussion above.

Concurrently, most of the units of the state university system exhibited patterns similar to those of California State-Stanislaus and California State-San Bernardino. A similar pattern emerged in South Carolina. When the more prestigious units of a state system become more strategic, less prestigious units may require special attention to avoid falling into the pattern termed reactive/strategic.

Between 1980 and 1986, all of the larger and better recognized units of the South Carolina system (College of Charleston, Citadel Military College, Clemson University, University of South Carolina at Columbia and Winthrop College) reported enrollment gains and high graduation equity scores for Blacks. During the same period, all seven of Florida's predominantly Anglo universities experienced significant losses in graduation equity scores for the same group; four also lost enrollment proportions. This was the period during which Florida implemented the College-Level Academic Skills Test (CLAST) exam, while concurrently limiting remedial work to community colleges.

The examination of institutional outcomes is a starting point for efforts to understand organizational culture. The distribution of minority students across

majors is also an important indicator. Proportional distribution and comparable degree achievement across majors suggest positive changes in the teaching and learning environment institutions provide for underrepresented minority groups. The concentration of minority groups in a limited number of majors may indicate the creation of programs with different academic standards to insulate the remainder of the institution from the need to adapt to student diversity.

Course-passing rates for individual departments also provide evidence of institutional culture. Of particular importance are the "gate-keeping courses" in math which determine eligibility to enter such fields as science, medicine and engineering. At Arizona State University, racial and ethnic status was a significant and negative predictor of student progress in math courses required by engineering, computer science, physical science, technology, psychology and pre-medicine. This applied even to minority students who had completed four years of high school math.

Math experiences did not have the same negative impact on minority student progress in education, business and the social sciences.[19] Differential failing rates, like the uneven distribution of students across majors, provide evidence of reactive organizational cultures.

The characteristics of entering students provide evidence of differences that institutions may need to address to move toward the outcomes associated with an adaptive organizational culture. The proportion of students on financial aid yields clues to differences in socioeconomic status. Parental education provides insights into differences in the values attached to a college education and the detail of college preparation. The primary language spoken in the home may be a key indicator of language fluency. Differences between minority and majority students along any of these dimensions, accompanied by poor institutional performance on equity measures, suggests an institutional culture in the reactive or reactive/strategic stage of response to student diversity.

Conclusion

Two general approaches have been used to achieve similar outcomes with students who begin from significantly different starting points. In the first, special-access programs provide a parallel track to the same objective. The University of Manitoba recruits native people from its vast, sparsely inhabited, northern regions. These people successfully complete the requirements for a medical degree without meeting normal requirements for admission to undergraduate study. Specially employed faculty members provide the quality of instruction and academic support necessary to their success at every level of the program. The effort is expensive, but is justified by the province as necessary to its goal of training doctors who will practice where none of the regularly qualified applicants will go. The federally funded Trio programs and their state-funded equal opportunity equivalents are less dramatic and less comprehensive examples of the creation of parallel tracks in U.S. higher education.

Clearly, no state has the resources to construct parallel programs in every discipline and specialization. The alternative is to create learning environments that support achievement by more diversely prepared student populations. The regular three-credit-hour English class offered at the University of California-Los Angeles, in optional format with added hours of classroom instruction, is one example of the second approach. So are the discipline-based learning laboratories at Memphis State University and Treisman's math laboratory at the University of California-Berkeley.[20] Unlike the first and more expensive alternative, the second approach relies on changes in the values and practices of existing faculty members. Changing the values that govern faculty behavior in a scenario where standards are maintained, minority students achieve and costs remain reasonable requires the management of organizational culture. The goal is to create an environment in which an increased emphasis on diversity is matched by more comprehensive and systematic strategies to help students achieve.

Institutions can concentrate on the second alternative to the exclusion of the first only as they approach the outcomes associated with multicultural, third-stage institutions. Those in the first two stages will require special-access and achievement programs. These programs will protect the more diversely prepared students they admit from the impact of an institutional environment shaped by reliance on admission standards designed to produce a clientele who can learn on their own. But special-access programs should be viewed as a means to an end and not as an end in themselves. Institutions can free themselves from the costs of supporting parallel programs by managing their cultures to create an appropriate balance between diversity and student achievement. The experiences of institutions that have reached the adaptive stage confirm the promise that cultural diversity enriches the learning environment for all.

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Notes

1. A. M. Pallas, G. Natriello and E. L. McDill, "The Changing Nature of the Disadvantaged Population: Current Dimensions and Future Trends." Educational Researcher, vol. 18, no. 5 (June-July 1989), pp. 16-22.

2. D. R. Deskins, Jr., Minority Recruitment Data (Totowa, New Jersey: Rowman & Allanheld, 1983).

3. Faculty unions take the place of the disciplines in community colleges and some four-year colleges and universities, but the results in terms of responsiveness to administrative priorities are very similar.

4. Elsewhere, we have also noted that these strategies were typically "color-free," making them much less costly to implement from a political perspective.

5. Belief in the value of higher education has been labeled "opportunity orientation" in the model that appears later in this paper.

6. A more detailed discussion of the process through which these variables were identified, as well as the way they impacted on the student's educational experience, is presented in R. C. Richardson and E. F. Skinner, A Model for Understanding Minority Participation and Achievement in Higher Education, Technical Report (College Park, Maryland: National Center for Postsecondary Governance and Finance, 1989).

7. We are indebted for much of this data to an excellent analysis of the disadvantaged population by Pallas, Natriello and McDill, "The Changing Nature of the Disadvantaged Population."

8. G. D. Kuh and E. J. Whit, "The Invisible Tapestry: Culture in American Colleges and Universities," ASHE-ERIC Higher Education Report No. 1 (Washington, D.C.: Association for the Study of Higher Education, 1988).

9. E. H. Schein, Organizational Culture and Leadership (San Francisco: Jossey-Bass, 1985).

10. A slightly different version of this model is presented in R. C. Richardson Jr., Serving More Diverse Students: A Contextual View (Denver: Education Commission of the States, June, 1989). In that publication, the derivation of the model is explained in greater detail.

11. The institutions were Brooklyn College, California State University-Dominguez Hills, Florida International University, Florida State University, Memphis State University, Temple University, University of California-Los

Angeles, University of New Mexico-Main, University of Texas at El Paso and Wayne State University.

12. R. M. Cyert, "The Design of a Creative Academic Organization," Frontiers in Innovative and Creative Management, edited by R. L. Kuhn (Cambridge, Mass.: Ballinger Publishing Company, 1985), pp. 301-302.

13. The role of the state policy environment in influencing institutions to improve environments for minority participation and achievement is the topic of the third of this series of policy papers. In that paper, these concepts are developed in greater detail.

14. R. M. Cyert, "The Design of a Creative Academic Organization," p. 302.

15. Ohio Board of Regents, Student Access and Success in Ohio's Higher Education System (Columbus, Ohio: A Policy Study of the Ohio Board of Regents, January, 1988).

16. The methodology involves a time-lagged comparison of institutional averages and is based on the premise that an institution with comparable achievement for its minority students should have a graduating class in any given year that resembles in composition of its undergraduate student body four years earlier. The four-year lag period was derived by taking a mean of the average time to graduation for the groups that make up the denominator of the ratio (first-time freshmen-- 6, transfers-- 3, etc.).

17. These calculations also were completed for American Indian students, but they are not used in this discussion because of the small numbers in most institutions and the limited number of institutions involved.

18. See, for example, the case study of the University of Texas at El Paso by A. G. de los Santos Jr., R. C. Richardson Jr. and E. F. Skinner, Achieving Access and Quality: Case Studies in Equity (New York: ACE/Macmillan, 1990, forthcoming).

19. M. A. Whitely, The College Mathematics Experience and Changes in Majors: A Structural Model Analysis (Tempe, Arizona: Unpublished Ph.D. Dissertation, 1986).

20. P. T. Treisman, A Study of the Mathematics Performance of Black Students at the University of California-Berkeley (Berkeley, California: Unpublished Manuscript, 1985).