

**Predicting Iowa State University's
success or failure in retaining African-American
students through graduation**

by

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Signatures have been redacted for privacy

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CHAPTER I. INTRODUCTION

105 African-American students, directly out of high school, became freshmen during summer and fall 1985 terms, at Iowa State University (ISU). As of the end of the spring semester, 1992, only seventeen of these students had graduated from Iowa State University.

If African-Americans are to be represented in all strata of American society, the challenge for today's higher education administrators must be to retain an increased number and a higher percentage of African-American students through graduation, and to have them enroll in graduate level studies (Lang, 1988). "Individual institutions of higher education have a responsibility, to themselves as members of the academy and ultimately to the society it serves, to know and understand the realities that obstruct a growing segment of our population from full participation" (Astone & Nunez-Wormack, 1990, p. 15). Yet,

despite a generation of experience with a significant presence of black students in white institutions of higher education, we have only a limited and imprecise understanding of the factors that affect the increases or decreases in an institution's enrollment of minority students, and, once enrolled, of the factors that provide these students with an institutional and educational experience that is personally gratifying and academically successful. Thus, even when an institution is ready to commit more resources to the minority endeavor, the institution's leadership lacks clear directions on how best to expend these resources Our lack of hard knowledge in this arena is due to the fact that the historic change in higher education's opening to

black and minority students has been subject to very little systematic, quantitative, and analytic research. (Allen, 1991, pg. 2)

Purpose of the study

The purpose of this study was to analyze the data routinely available to Iowa State University (ISU) during the selection and enrollment phase of African-American students to see if the factors these data represent are significant in predicting the university's success or failure in retaining these students through graduation.

While no college graduates all students who enroll, it is the mission and the responsibility of Iowa State University to research, serve and teach. If this study finds the available data to be significant in predicting the graduation (continued retention) of African-Americans students, then these data should be used in retention program development to assist students who enroll whom the data indicate are high-risk of not graduating from ISU.

Statement of the problem

The graduation rate for African-American students at Iowa State University was reported to be 26 percent for those students who were freshmen beginning Fall Semester, 1985 (President's Council, October 16, 1992). While this is approximately equal to the national graduation rate of 25.6 percent for African-American students (Clark & Crawford, 1992), it is well below the graduation rates for the other ethnic groups at Iowa State University. Table 1 lists the graduation rates that correspond to Figure 1 (see Table 1 and Figure 1).

Analyses of Table 1 and Figure 1 indicate that African-American students who enroll at ISU are much less likely to graduate than Asian-American, Hispanic-American and white students.

Table 1: Graduation rates by year after enrollment.

	WHITE	BLACK	HISPANIC	ASIAN
4th YEAR	25%	5.5%	20%	26%
5th YEAR	31%	15.0%	22%	22%
6th YEAR	8%	5.5%	5%	7%

President's Office (October 16, 1992)

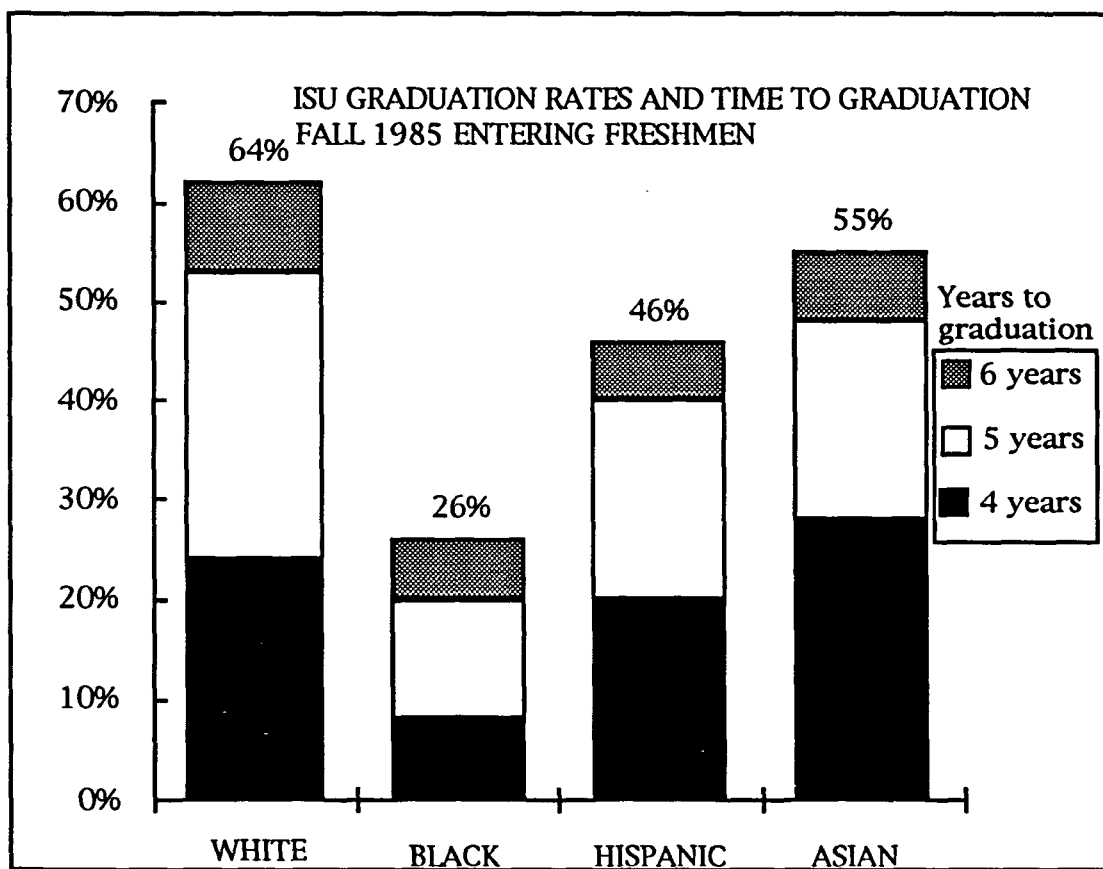


Figure 1 Graduation rates and time to graduation – 1985 Entering Freshmen
President's Council (October 16, 1992)

Nationally, the graduation rate for African-American students receiving bachelor's degrees is 25.6 percent. In comparison, Hispanic-American, Asian-American and white students graduate at 20.4, 41.5, and 43.9 percent, respectively (Astone & Nunez-Wormack, 1990). Figure 2 illustrates graphically the ISU and national graduation rates. ISU is well above the national graduation rates for white, Hispanic-American and Asian-American students. Why does ISU not excel with African-American students?

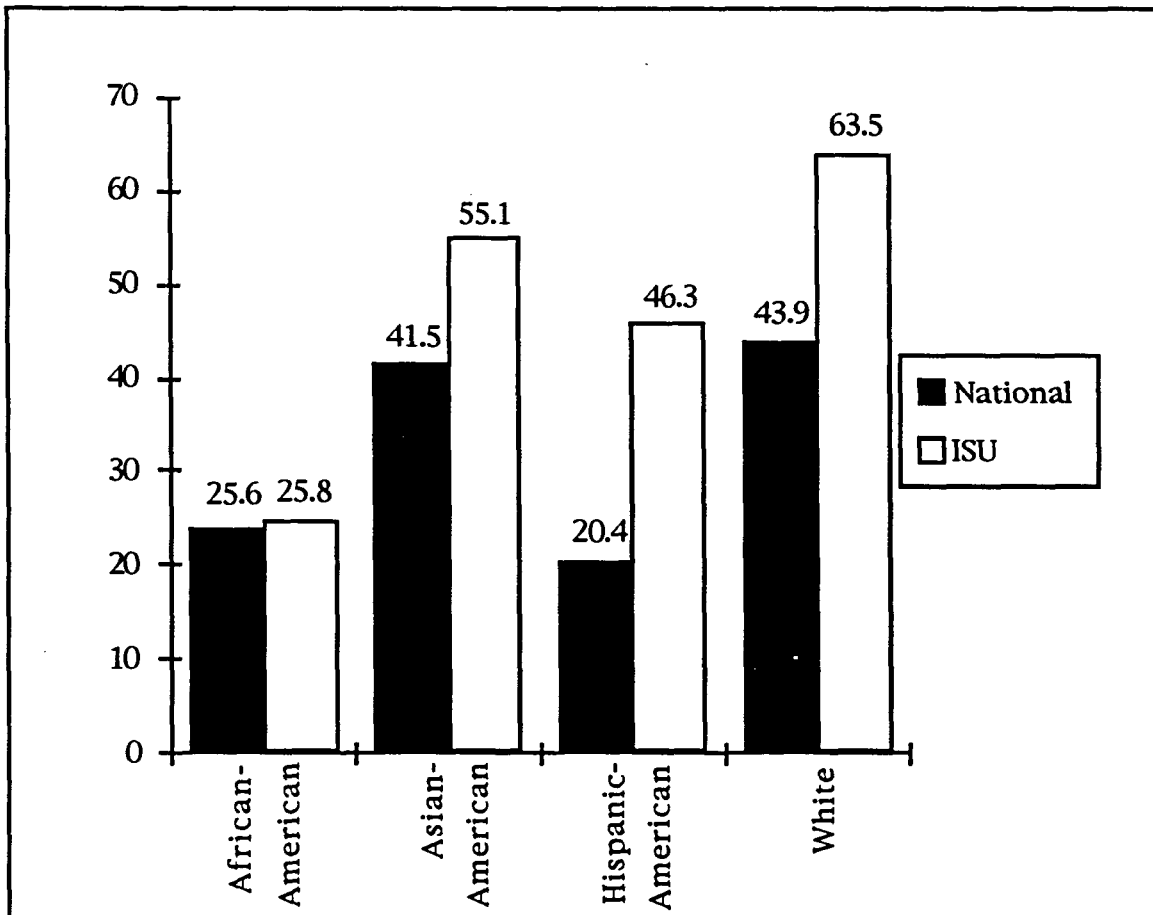


Figure 2. ISU and national graduation percentage rates by ethnicity.

Significance of the problem

Several of the authors (Kraft, 1991; McTarnaghan, 1990; White, 1988; & Hartley, 1987) within the literature suggest further research on the problems African-Americans, and the institutions of higher education that would endeavor to educate them. "America cannot afford to leave significant sectors of its population unprepared for the 21st century" (Clark & Crawford, 1992).

Jacqueline Irvine (1990), referring to African-American high school students, stated,

it has been estimated that each class of school failures and dropouts costs the nation \$240 billion in lost earnings and foregone taxes.

Billions more are spent on these dropouts for crime control, welfare, and health and social services. It seems clear that the only viable alternative is to educate these children effectively not only because it is the fair and just thing to do but because we cannot afford not to.

(p. 127)

The percentage of black high school graduates who enroll in college is not much lower than for whites, . . . but the [high school] dropout rate [for black students] has so reduced the pool of high school graduates that black young people participate in higher education well below their race's representation in the citizenry at large. Once enrolled in college, blacks are significantly less likely than whites to complete a baccalaureate program. (Wharton, 1988, p. 5)

"Retention, then, must be a priority. Parity between the proportion of minority baccalaureate holders and their share of the population is a reasonable goal for higher education. Closing the gap is imperative" (ACE, 1989, p. 30). "The emphasis in the schools must be on changing the schools-

not changing the students . . . The future of our entire country depends upon how well we educate African-Americans and other minorities in the years ahead" (Lomotey, 1990, p. 1).

Significance of this study

This study focuses on the current process used by Iowa State University, a large, midwestern, predominately white public land-grant institution, to select and enroll African-American students to analyze if the data gathered are significant in predicting the retention and graduation of these students. If the data are significant, the data should form the foundation upon which support programs for African-American students are based. If they are not, or if the programs on which they are currently based are not successful in retaining African-American students through graduation, further research must be done to understand the factors that do influence retention and graduation rates. Program funding, development, implementation and evaluation should be based upon factors that positively affect retention and graduation.

If ISU can research the factors that affect the success of its African-American students and implement successful programs based on those factors, the enrollment numbers should increase, based on larger numbers of students returning to complete their junior and senior years. If ISU can prove successful in better retaining and graduating African-American students, recruitment would probably become easier, tuition paid by the those students retained would stay at ISU. Also, ISU could join the list of successful model programs for African-American students as our country's colleges and universities attempt to overcome educational inequities of the past.

Most importantly, the African-American students who attend ISU and other colleges and universities in the United States must find themselves in an environment where they and their peers are likely to succeed. ISU should not want to say “comparably, we do well”, ISU should want to excel in the retention and graduation of all segments of its student population.

Premises of the study

E. Walker (1992), citing Wilson and Menendez (1988), stated that equal education opportunity was mandated if not guaranteed by Title VI of the 1964 Civil [Rights] Act and Title VII, these Acts discouraged all forms of discrimination within public and private institutions; these Acts were also mandated in state and local governments as well. (p. 7)

The premises of this study are as follows (Commission on the Higher Education of Minorities, 1982):

- Education is a value and a right that is unequally distributed in U.S. society.
- Blacks, Chicanos, Puerto Ricans, and American Indians are major groups with long-standing unmet claims on U.S. education. These claims concern not only the amount of schooling received, but also its quality, scope, and content.
- Redressing inequality in higher education is not only an essential component of any significant effort to guarantee to these groups full participation in U.S. Society, but also a goal worth pursuing in its own right.
- The attainment of full participation in higher education for these groups may in the short run require that financial and other resources be allocated in a manner governed more by considerations of the magnitude

of existing inequality than by consideration of the proportions these groups represent in the total U.S. population.

- U.S. society as a whole has practical and moral interests in the achievement of this goal.

Operational definitions

African-American -- American having origins in any of the black racial groups of Africa. The terms of black or Afro-American are used in context from citations and quotations, but are interchangeable within this study.

American -- Person who is citizen of the United States of America.

Asian-American or Pacific Islander -- American having origins in any of the original peoples of the Far East, Southeast Asia, Indian subcontinent, or the Pacific Islands.

American Indian or Alaskan native -- American having origins in any of the original peoples of North American.

Athlete -- Any student who, at any time while enrolled at Iowa State University, is considered by the Office of the Registrar to be a student-athlete in any sport.

Attrition -- Students who dropout or leave an institution of higher education, voluntarily or involuntarily, prior to receiving a baccalaureate degree.

Failure -- Student does not graduate with six years of initial entry into Iowa State University.

Financial award -- The listing, by the Iowa State University Office of Student Financial Aid, of the amount of aid awarded to the student.

Financial need -- The amount of money needed by the student to cover total cost of education as computed by the Iowa State University Office of

Student Financial Aid. Students who did not apply for financial aid are considered to be self-reported no-need for the purposes of this study.

Hispanic-Americans -- American of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

The term Chicano is used in context from citations and quotations, but is interchangeable within this study.

Minority students -- African-American, Asian-American, American Indian, or Hispanic-American students.

Persistence -- Desire and determination of students to attain their educational goals demonstrated by successfully completing a college degree (Walker, 1992).

Retention -- Student returning to the institution to complete baccalaureate degree.

Success -- Student graduation within six years after initial entry into Iowa State University.

White -- American, not of Hispanic origin, having origins in any of the original peoples of Europe.

Limitations of the study

1. The number of subjects in this study (105) entailed the official summer and fall 1985 initial enrollment of African-American students directly out of high school. The number is low and therefore, caution should be taken in generalizing the findings to other institutions.
2. Financial aid data and some demographic data are based on self reports and are not confirmed in this study.

3. The factors considered did not include some factors that may change often during a students enrollment at ISU such as residence and major.
4. Financial aid data were limited to computed need and the grand total of aid available. The data may not fully reflect the aid “picked-up” by the student, and the grand total may reflect duplicated funds.

CHAPTER II. REVIEW OF THE LITERATURE

The review of literature for this study included books, journals, theses, dissertations, institutional bulletins and reports, and ERIC documents. This chapter reviews, from the literature, the history of the problem, ISU and national enrollment and graduation trends, and the problems African-American students encounter and the factors considered in past research that affect institutional success in retaining African-American students. A summary of the literature review concludes this chapter.

Historical perspective

The history of African-Americans in the United States began when Africans were involuntarily brought to America from Africa to become slaves of the dominating, white culture. The American Civil War was fought based on differing views of the rights of these African slaves. The end of slavery within the United States left this African population stranded in America, legally separated from most white-culture benefits, especially access to higher education (Allen, 1991; Asamen, 1989; Hall & Allen, 1989).

Judicial and legislative events such as Brown versus the Board of Education, 1954; the GI Bill; the National Defense Act, 1958; the Civil Rights Act, 1964; and the Higher Education Acts, 1965 and 1972, laid groundwork upon which a dramatic increase in African-American enrollment in higher education took place. Yet the DeFunis (1974) and Bakke (1978) U.S. Supreme Court's cases indicate that the American public does not fully support the affirmative action higher education has taken on behalf of minorities (Allen, 1992; Hall, & Allen, 1989).

National perspective

In 1960, approximately 150,000 African American students were enrolled on America's college campuses. In 1975 the total number of African Americans enrolled in higher education was approaching 1 million (ACE, 1989). In 1978, 1.054 million African-American students were enrolled in the United States. U.S. enrollment of African-Americans rose to 1.107 million in 1980, declined in 1982 and 1984, and then rose to 1.082 million in 1986. In 1988 total African-American enrollment reached 1.13 million (ACE, 1991). Between 1990 and 1991, total African American enrollment increased by 7.1 percent from 1.247 million in 1990 to 1.335 million in 1991 (ACE, 1993).

Figure 3 illustrates the national enrollment of minorities. While the number of African-Americans enrolled in higher education rose by 26.7 percent since 1978, the number of bachelor's degrees conferred rose by only 3.3 percent between 1976 and 1990. This compares to a 121.3 percent increase in enrollment for other minorities and a 132.99 percent increase in bachelors degrees conferred between 1976 and 1990. (ACE, 1991, 1993).

In 1976, the total number of bachelor's degrees awarded to African-Americans was 59,122. The number of bachelor's degree conferred increased to 60673 in 1981, decreased to 57,473 in 1985, and had decreased again by 1987 to 56,554. By 1989, the number of bachelor's degrees awarded to African-Americans had increased to 58,016 (ACE, 1991). Between 1989 and 1990 the number of bachelor's degrees awarded increased to 61,074 (see figure 4), yet this number represents the smallest percentage of increase among African American, Hispanic and American-Indians for the same time period (ACE, 1993).

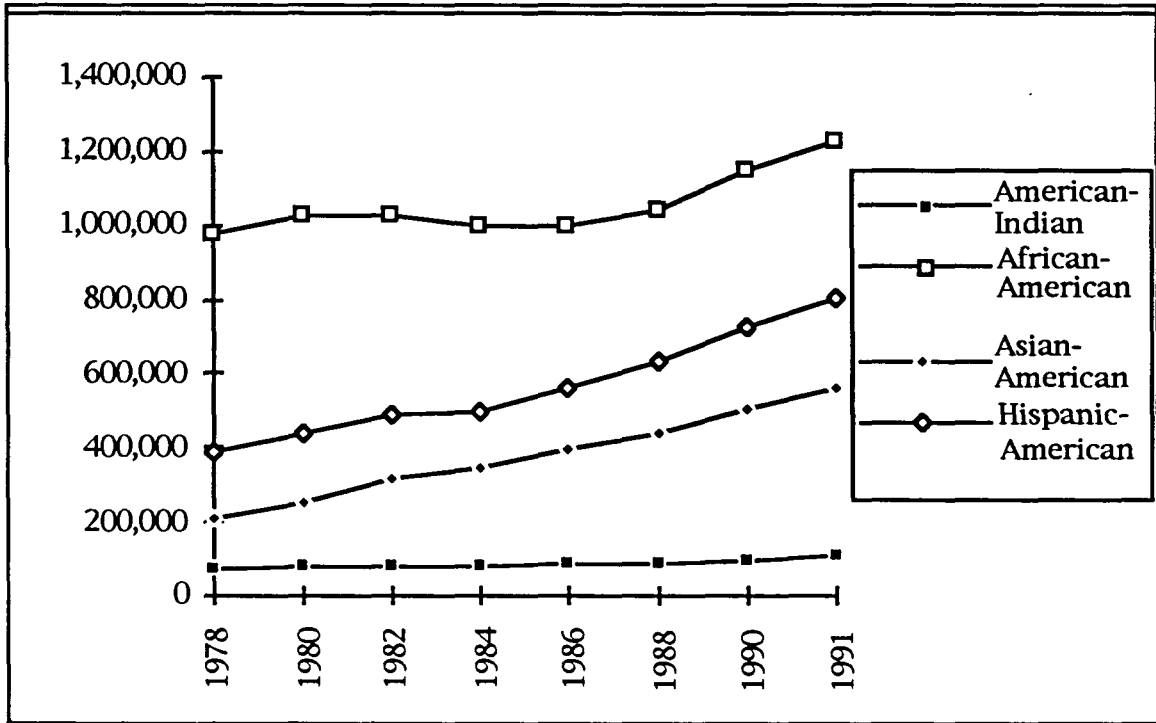


Figure 3: National enrollment by ethnicity

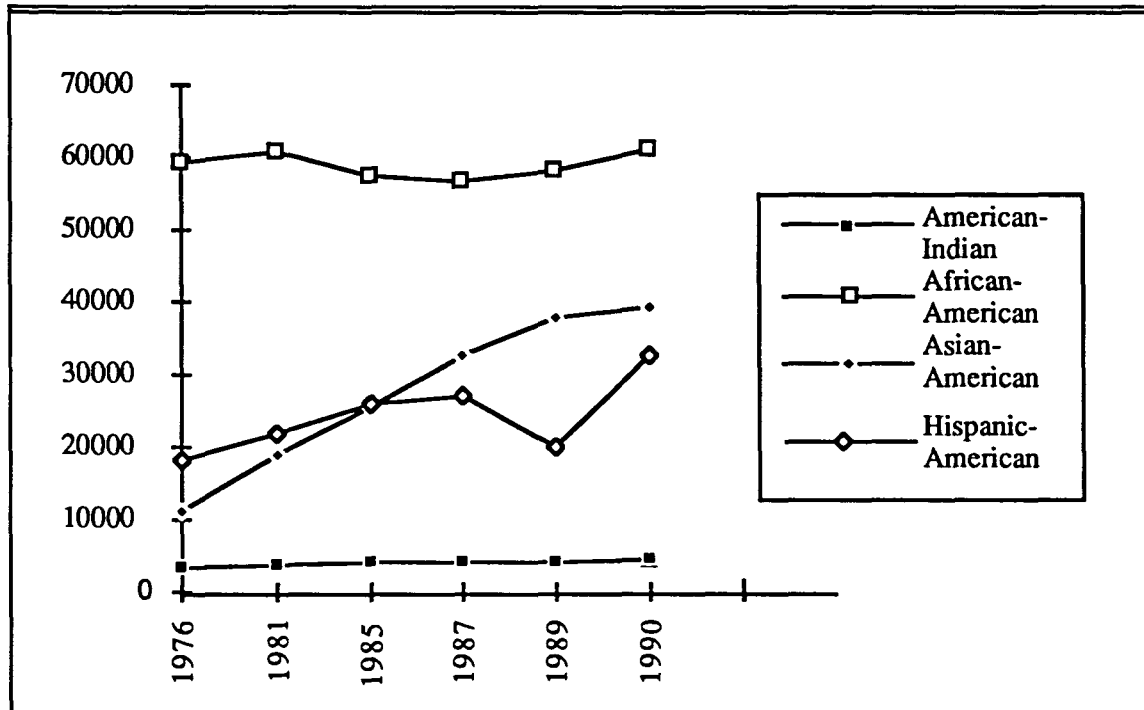


Figure 4: Bachelors degrees conferred nationally by ethnicity

The increase in total African-American enrollment with a corresponding proportional decrease in the number of baccalaureate degrees awarded is highly disquieting (Wharton, 1986).

Nationally, the graduation rate for African-American students receiving bachelor's degrees was 25.6 percent (Clark & Crawford, 1992). In comparison, Hispanic, Asian-American, and white students graduated at 20.4 percent, 41.5 percent and 43.9 percent respectively (Astone and Nunez-Wormack, 1990).

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Institutional perspective

African-American enrollment at Iowa State University in 1971 was 158. Enrollment rose steadily until 1983 when it peaked at 645. declined to 587 in 1984, 586 in 1986, 567 in 1988, rebounded to 640 in 1989, and then fell to 587 in 1990 (see Table 2).

Table 2: Minority Student Enrollment Comparison - ISU

	American Indian	African- American	Asian- American	Hispanic- American	Total	Percent Minority
1971	12	158	58	19	247	1.3%
1972	10	170	69	16	265	1.4%
1973	10	200	57	22	289	1.5%
1974	16	265	78	27	386	1.9%
1975	24	249	85	31	389	1.8%
1976	19	245	98	35	397	1.8%
1977	24	304	117	35	480	2.1%
1978	18	292	140	50	500	2.2%
1979	18	326	154	81	579	2.5%
1980	24	381	166	98	669	2.8%
1981	17	404	157	149	727	3.0%
1982	30	475	201	200	906	3.6%
1983	35	645	251	198	1129	4.3%
1984	25	587	288	197	1097	4.2%
1985	20	570	326	205	1121	4.2%
1986	23	586	342	215	1166	4.4%
1987	25	532	336	206	1099	4.3%
1988	27	567	349	233	1176	4.6%
1989	30	640	353	270	1293	5.1%
1990	29	587	372	259	1247	4.9%
1991	34	593	394	300	1321	5.2%
1992	35	708	435	326	1504	6.0%
1993	46	813	452	343	1654	6.6%

Office of the Registrar (1993)

Enrollment reached 593 in 1991, increased to 708 in 1992 and, for the Fall Semester 1993, there were 813 African-Americans enrolled at Iowa State University (Office of the Registrar, 1993)

Table 2 indicates that the number of African-Americans enrolled at ISU has increased by 515 percent since 1971. This compares to a 945 percent increase in enrollment for other minorities since 1971. There was a 37.1 percent increase in African-American enrollment between 1991 and 1993 compared to a 15.5 percent increase for other minorities.

According to Table 3, the number of bachelors degrees conferred to African-American students has increased by 328 percent since 1978, but still falls behind the 427 percent increase in the number of bachelors degrees conferred since 1978 for the other three groups of minority student listed in Table 3.

Table 3: Minority bachelors degrees conferred - ISU

Year	American Indian	African-American	Asian-American	Hispanic-American	Total	Percent Minority
77-78	1	24	13	5	43	1.2%
78-79	3	25	16	5	49	1.4%
79-80	2	26	19	9	56	1.5%
80-81	2	21	19	10	52	1.3%
81-82	3	36	19	14	72	1.8%
82-83	3	26	23	17	69	1.9%
83-84	4	39	20	25	88	2.3%
84-85	5	42	27	22	96	2.4%
85-86	2	48	35	25	110	2.6%
86-87	4	55	54	22	135	3.1%
87-88	1	66	41	20	128	3.1%
88-89	3	57	52	31	143	3.5%
89-90	4	55	44	32	135	3.5%
90-91	2	52	46	27	127	3.3%
91-92	3	50	52	28	133	3.5%
92-93	6	82	60	61	209	5.3%

Office of the Registrar (1993)

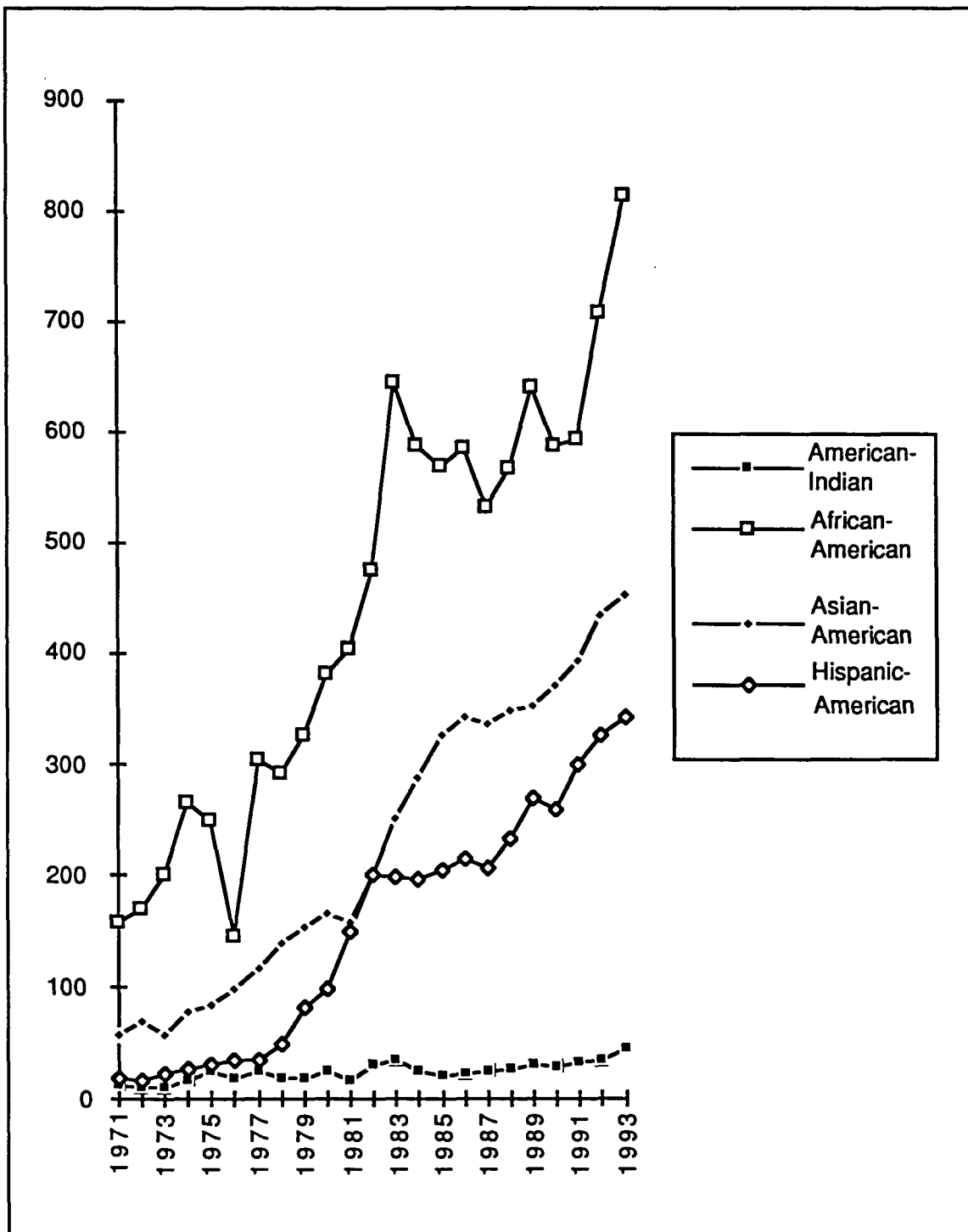


Figure 5: Minority student enrollment - ISU - 1971-1993
Office of the Registrar (1993)

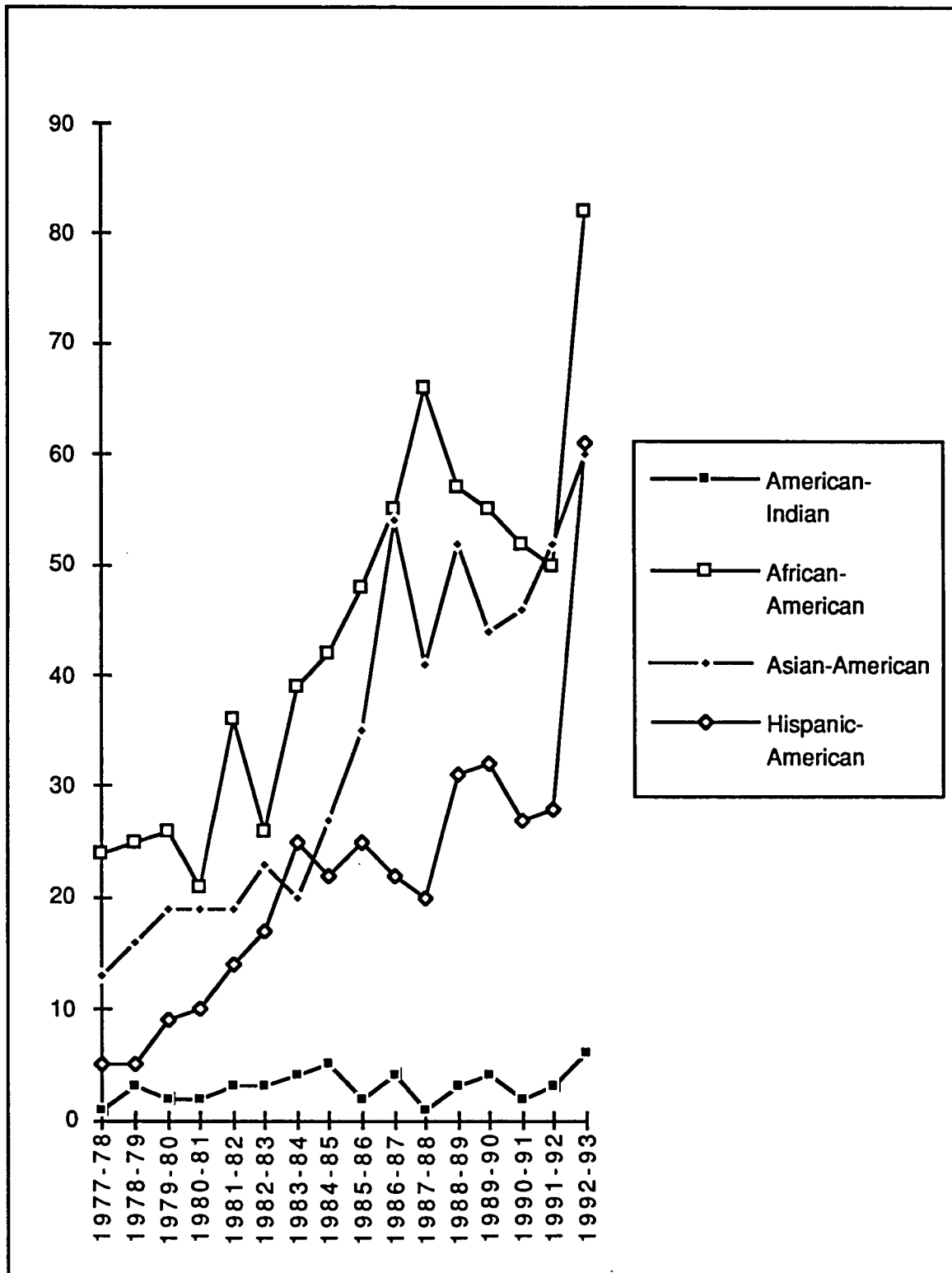


Figure 6: Minority bachelors degrees conferred - ISU - 1977-1993

Figure 5 illustrates the data included in Table 2 and reflects the number of minority students enrolled at ISU, by year, between 1971 and 1993. Figure 6 illustrates the data included in Table 3 and reflects the number bachelors degrees conferred to minority students by ISU between the academic years of 1977-78 and 1992-93. While the number of African-American students enrolled increased by 278 percent between 1978 and 1993, the number of degrees conferred to African-Americans has increased by 342 percent.

The Mission Statement for Iowa State university is included in the Strategic Plan for Iowa State University (1990) (Appendix A).

The Mission Statement for the Division of Students Affairs:

1. supports and complements the university's commitment to the advancement of learning;
2. promotes and ensures an atmosphere which enhances the individual student's freedom to learn;
3. minimizes the barriers to effective learning;
4. increases opportunities for educational development in and beyond the classroom;
5. involvement in formulation and application of educational policies governing the university community'
6. cooperates with other units to provide programs and services for all members of the university community;
7. provides administrative and personnel services to students prior to and throughout their affiliation with the university;
8. provides programs and services that supports the students' total development--intellectually, physically socially, emotionally, and spiritually.

The “accomplishment of the missions is characterized by the individual student’s growth and development of knowledge and competencies in communication, inquiry, organizational management, citizenship, and leadership, as well as necessary skills to contribute in a complex and changing world” (Office of Student Affairs, 1993).

In 1987, Iowa State University developed the 891 Plan (Appendix B) in response to the Board of Regents mandate of 8.5% minority enrollment by 1991. The president of Iowa State University, in his response to the Steering Committee on Diversity (December 4, 1992), endorsed A Plan for Creating a Multicultural and Diverse Environment at Iowa State University to fulfill this mandate. Initiatives included in the plan include:

1. The Committee on Curricular Enhancement
2. The Council on International Programs
3. The George Washington Carver visiting professorship
4. College based minority students liason positions
5. Funding to hire faculty from under-represented groups
6. Project Aware
7. Center for Teaching Excellence workshops
8. Lunch meetings for the provost, women and African-American faculty.
9. Under-represented faculty mentoring workshops.

Jackson (1993) (Appendix C) detailed ISU’s response to minority student participation at ISU. The “Action Plan” proposed seven initiatives which included:

1. Changing Attitudes and Behaviors – involve the faculty and staff with the students to help students excel.

2. Targeted Recruitment, Selection and Admissions – select and admit students whom ISU can support, or build programs to support students admitted.
3. Improve financial assistance – financial assistance to correct the situation of minority students leaving ISU with huge debt and no degree.
4. Increase Black and minority faculty and staff – provide role models and mentors for the minority students who attend ISU.
5. Provide programs for minority student leadership – provide opportunities for minority students to experience positions of leadership.
6. Improve academic advising – combine advising, counseling and teaching skills to help students maximize their talents and minimize their limitations.
7. Improve teaching and learning – change curricula and the stigma some instructors may have about minority students.

The admissions criteria published in the Admissions Application Booklet (1992) are listed below (p. 28):

To be admitted—from high school. If you rank in the upper one-half of your graduating class and meet the high school course requirements stated below, you will generally be admitted. If you do not rank in the upper one-half of your graduating class, you may be admitted if you attain a combination of high school rank and ACT composite score shown in the chart below (a comparable index is available if you submit SAT scores):

High School Rank (99% is high)	ACT Composite Score
49-47%	20
46-45%	21
44-42%	22
41-39%	23
38% or below	24

If you do not meet the class rank or test score requirements on the chart, you may be allowed to enroll in a summer session on a trial basis.

In an interview with Caffrey (1993), the following admissions criteria were given for minority applicants to ISU (it was indicated these criteria are unpublished):

High School Rank (99% is high)	ACT Composite Score
49-47%	20
46-45%	20
44-42%	20
41-39%	20
38% or below	20

All other criteria remain the same for minority student admissions compared to majority student admissions.

In an interview with Smedal (1993), the Director of Admissions at Iowa State University, regarding the difference in admissions criteria for minority and majority students, the researcher asked on what research the difference in admissions criteria was based. No solid research based reason for the differences in the admission criteria was given.

Factors that influence academic success/failure

According to Noel (1985), the reason for dropping out of college is almost always a combination of factors, or "themes of dropping out" (p. 10). The themes he lists are academic boredom and uncertainty about what to study, transition/adjustment problems, limited and/or unrealistic expectations of college, academic underpreparedness, incompatibility and irrelevance.

Noel (1985) explains that some students experience academic boredom because learning is not relevant to those who do not have a goal; therefore "tests, courses, and curricula lack meaning for many students" (p. 11). Transition/adjustment difficulties means students are in a new environment

and cut off from past support groups and social networks. Noel reports that first generation college students are especially likely to have limited or unrealistic expectations of college (p. 13). Noel asserted that feelings of incompatibility and irrelevance may result from a lack of concrete understanding of the rationale for course requirements (p. 14).

In an Iowa State University study, Walker (1992) contended that, for African-American students, incompatibility can mean "feelings of 'getting lost in the whiteness' and 'culture shock' which [may] create adjustment difficulties and cause the students to feel 'alien and unwelcome'" (p. 91).

Walker's (1992) study used a survey method to assess experiences of black freshmen enrolled at ISU in 1984-85 academic year. The survey considered 15 related areas that are included within the following:

1. reasons for attending ISU
2. housing and living arrangements
3. social life
4. participation in campus activities
5. curricular interests
6. interactions with faculty, staff and students
7. support services racial discrimination
8. race and race relations
9. precollege experiences student explanations for black students' high dropout rate
10. other educational experiences, and
11. recommendations for change.

Walker (1992) found the following student experiences encouraged persistence at ISU (pp. 95-99):

1. family influence (parental education and occupation and other siblings' having already attended college)
2. affiliation with campus organizations
3. positive interactions with faculty and staff
4. living on-campus
5. having a black roommate.

The study found the main reason for dropping out to be sociocultural. Students reported feelings of "getting lost in the whiteness" and "culture shock" (p. 100). Feelings of racial discrimination and lack of black faculty and staff were felt by more than two-thirds of the students in Walker's survey.

Citing several studies (Remsik, 1979; Cortina, 1980; Goodrich, 1980; and Suen 1983), Walker (1992) stated that alienation leads to attrition and is indirectly related to GPA for black students (p. 102).

Ballard (1973) depicted alienation for many Blacks in higher education as a "four-year exile in a strange and alien white world which cut them off from their roots" and "a prospect of education in an environment which refused to acknowledge their existence" (p. 5).

Allen (1992) detailed a decline, since the 1964 Civil Rights Act, in the national effort to correct the "wrongs imposed on African-Americans for centuries" in his study on the predictors of the college outcomes. He noted a national ambivalence and a complacency within higher education that have been "shaken" by numerous recent racial incidents on American campuses.

Allen's (1992) study considered the different outcomes of African-American students who attend historically black versus predominately white colleges and universities. He concluded that the most serious problems facing

black students on white campuses arise from feelings of isolation, alienation, and lack of support.

The study included 2531 black students from historically black colleges and predominately white institutions. He found that racial composition of the institution was associated with social involvement; the greatest social involvement takes place when black students report that they make the right college choice, have positive faculty relationships, and positive feelings of connection to peers of both races (black and white).

His study used a multivariate approach to interpret relationships among student outcomes of academic achievement, social involvement, and career goals; student education backgrounds, educational goals, demographic characteristics; and person adjustment to the college and its environment. Also included in the study were other possible outcome predictors such as choice of college, time spent studying, and class level.

Allen (1992) suggested that "universities must map out and understand the complex relationships that culminate in so few blacks qualifying for, entering, and completing college. Having done so, schools can then target places where intervention could yield positive results." He went on to state that "such an approach would be preferable to any response suggesting universities are unable to address key factors that influence black students' college attendance and graduation, factors that lie outside the school walls". (p. 42).

Nettles (1991) considered the following personal, demographic, academic, and student and faculty attitudinal/behavioral characteristics as variables that predict students' performance: Student characteristics included:

1. composite SAT score,
2. socioeconomic status,
3. sex,
4. age,
5. high-school grade-point average,
6. marital status,
7. type of high school attended,
8. number of hours spent working on a job,
9. where lived while in school,
10. racial minority status,
11. whether a transfer student,
12. number of miles between college and permanent home,
13. fit between racial composition of high school and college,
14. fit between racial composition of home neighborhood and racial composition of college,
15. highest expected degree,
16. whether works while in college,
17. academic integration,
18. financial need,
19. commitment to institution,
20. academic motivation,
21. feelings of discrimination,
22. social integration, and
23. interfering problems.

The faculty characteristics which Nettles considered in his study included:

1. significant contact with students outside the classroom,
2. satisfaction with the institution,
3. conservative (traditional) teaching styles,
4. feelings that the institution is discriminatory, and
5. concern for student development.

Nettles' study (1991) indicated the characteristics that enhanced African-American student performance to be:

1. having a faculty with nontraditional teaching styles,
2. being married,
3. having high academic motivation,
4. working a low number of hours on a job,
5. living in on-campus housing,
6. having low feelings of discrimination, and,
7. not being a transfer student.

Nettles (1992) stated that

Black students have significantly greater financial need, stronger feelings of discrimination, lower academic integration, more interfering problems, lower SAT scores, and lower high-school grade point averages—all of which impact negatively upon their academic performances. (p. 87)

A study by Tracy and Sedlacek (1987) considered traditional predictors of success (high school grades and ACT/SAT scores) and the following non-cognitive variables to predict black student academic success:

1. positive self-concept,
2. realistic self-appraisal,
3. understanding of and ability to deal with racism,

4. preference for long range goals over more immediate short-term needs,
5. support of others for academic plans,
6. successful leadership experience, and
7. demonstrated community service.

Their findings (Tracy & Sedlacek, 1987) indicated that the dimensions that are most related to persistence and which are better predictors of academic success for African-American students than such traditional measures as high school grades and ACT/SAT scores were:

1. having a positive self-concept,
2. having a realistic self-appraisal,
3. preferring long range goals to more short-term immediate needs, and,
4. having some leadership experience.

Arbona and Novy (1990) attempted to duplicate the Tracy and Sedlacek (1987) study on approximately 1,300 African-American, Hispanic and white students undergoing freshman orientation at the University of Houston and reported that “noncognitive dimensions were not predictive of college grades or persistence for Black students” (p. 419).

O’Callaghan and Bryant (1990) tested the Tracy and Sedlacek noncognitive theory on 122 students between 17 and 25 years of age attending the U.S. Air Force Academy and reported that “black-American students scored significantly higher on the variable of positive self-concept” and also on “the variable relating to the ability to deal with racism” (p. 123). They reported that minority students who understand racism and are capable of

dealing with it are more likely to perform better academically and to more likely to adjust to a predominately white institution.

Clark and Crawford (1992) reported on their study that examined attitudes and perceptions of campus and institutional environment of 122 African-American freshmen enrolled in their college. A sample of 1984 students was compared to a 1989 cohort. The factorial analysis of the perceptions of the freshmen indicated that they felt the college was a “good college”, offered various support systems, and disagreed with the view that there were barriers interfering with their college experience. The students indicated that the faculty and students did not display “racial discrimination behavior”, and they were respected by the faculty.

While this analysis appeared to indicate things were going well at their institution, the first year attrition rate was still almost 50 percent. The conclusion given was that, in general, “dissatisfaction with the campus racial climate increases as students advance from freshmen to seniors” (p. 73). Their recommendation was that the institution must find ways to “manipulate” the environment of the college to enhance African-American students’ adjustment to and successful completion of college.

Carter (1990) investigated racial differences and cultural values in a sample of 293 African-American and 506 white college students, freshmen through seniors. Citing Fleming (1984), Carter indicated the findings suggest that “African-American students may experience the environments in higher educational institutions as hostile and unfamiliar” and noted that “when differences in cultural values exist, interpersonal or intergroup relationships might be subject to more anxiety and frustration that might affect intergroup and interpersonal relationships (pp. 71-78).

Steward, Jackson, and Jackson (1990) defined alienation as a multi-dimensional concept that includes feelings of powerlessness, meaninglessness, and social isolation. Citing several earlier studies, the authors stated that Black students' experience of alienation on predominantly white university campuses has been a topic of interest to social sciences for many years.

They studied 46 Black seniors enrolled at a predominantly white midwest public university and found a high level of alienation among the Black students. Citing earlier studies, they concluded that Black students felt like "strangers in a strange land" and noted that "Black students on predominantly white campuses must acknowledge the value of remaining a 'stranger' to protect themselves from events that might contribute to academic demise" (p. 515).

Weis (1985) studied the culture that was produced collectively by black students as they grasped for a higher education attending an urban community college located in a large northeastern city in the United States. The study explored the issue that the culture students produce in educational institutions makes a significant contribution to the maintenance of an unequal social structure in the United States.

Weis (1985) spent one year conducting the study in which she interviewed faculty and students, and becoming immersed in college life. Themes related to the production of "lived" black student culture were identified.

The study found that the interaction of the dominant culture's ideology (the community college's institutional culture) and the larger black

community's culture (70 percent black population in the large, urban area surrounding the institution) resulted in a lived black student culture.

The Black student culture included:

1. inconsistent class attendance, late arrival at classes, and prevalent use of marijuana and other drugs and attending classes "stoned"
2. students value the knowledge that is offered at the college because a college education is "the key" to a brighter future and a way out of the ghetto
3. the knowledge of college is "white, not mine"
4. sharing with other oppressed blacks in the community and relying upon others to share with them as a way of survival
5. realizing that to get out of the ghetto, resources must be saved, and
6. the language of the black culture gives black students an identity which is resistant to the dominant culture and allows a "sameness" with other blacks.

The institutional culture included:

1. an attendance policy which related to grades
2. "standard" English is required
3. believing two or three black students succeeding in college is good
4. the idea that blacks use the college as a way to get money ("when the money comes, Blacks quit coming")
5. 33 percent minority faculty (no minority faculty in math, science or business administration).

Weis (1985) stated that neither the black community culture nor the dominant culture created the lived culture; rather the students' cultures were created when the students tried to combine the two "worlds". The dissonance of grasping for a way up and out of the ghetto that was seen as "white, not mine" most often led to the students retreating to the ghetto rather than changing to "be like them".

White (1988) investigated ethnic identity, and the effects it has on academic performance, in a study that took place at the University of Wisconsin–Madison during the 1985-86 spring semester. Identities were defined as (citing Stryker, 1980) “the set of shared meanings a person internalizes and attributes to self as an object in a social role” (p. 221).

The study concluded that when these identities are “learned”, they are used within the situations that seem to require the appropriate identity, and “ultimately” motivate social behavior or performance.

White (1988) considered the following in the analysis of ethnic identity and academic performance:

1. college grade-point average (GPA)
2. adjustment to the college
3. educational aspirations
4. student identity
5. ethnic identity
6. self esteem
7. influences of significant others (parents)
8. precollege educational experiences and capabilities (high school GPA)
9. socioeconomic status.

Of the factors analyzed, the factors determining academic success for black and white students were the same. Yet, “what is important to whites in determining their student identity and subsequently, their academic success is different from what is important for blacks” (p. 235). The study did not identify these differences and called for further research to assess the

determinants of the level of student identity. The study did not consider the process of the development of ethnic identity.

Cross (1991) presented a “stage model” of racial identity that hypothesized that “Black people pass through a series of four stages as they move toward Black cultural identity and self-actualization”. These stages include:

1. **Pre-encounter:** Individuals adapt a Euro-American worldview while simultaneously devaluing or denying their Blackness or its importance in their personality development.
2. **Encounter:** A person’s old worldview regarding the significance of one’s Blackness in the United States is shattered, causing that person to reevaluate his or her identity (confused attitudes).
3. **Immersion-Emersion:** Black culture is idealized and focused on while white culture is rejected (pro-Black/anti-white attitudes).
4. **Internalization:** A person feels secure and satisfied with his or her internalized attitudes of Blackness, and anti-white attitudes and feelings diminish. The individual’s worldview is predominantly Black and he or she is able to interact and relate effectively with whites (bicultural attitudes).

While Austin, Carter and Vaux (1990) did not consider the stages of racial identity in their study, they considered the Pre-encounter, Encounter, Immersion-Emersion, and Internalization attitudes in predicting students attitudes toward counseling. They found that attitudes toward counseling and counseling centers were predicted by racial identity attitudes.

Students with Pre-encounter attitudes understood about counseling centers and perceived counseling as helpful, but a “stigma of counseling” tended to make Pre-encounter and Immersion-Emersion students associate counseling with weakness. This stigma may have caused students not to seek counseling due to a concern that they might be stigmatized by the counselors.

Cross (1991) explained in psychological terms that "if Encounter and Immersion-Emersion usher in cognitive dissonance and an accompanying roller-coaster emotionality, the Internalization stage marks the point of dissonance resolution and a reconstitution of one's steady-state personality and cognitive style. The person feels calmer, more relaxed, and more at ease with self."

Jackson (1984, 1987, 1993) considered the characteristics of successful minority students at Iowa State University. For his study, all graduating students were interviewed, insuring that they knew the graduation policies. An open-ended questionnaire was completed by students to provide an opportunity "for students to give feedback about their educational, cultural, and social experiences while attending ISU" (p. 52).

Jackson (1987) found that these successful students place great importance on studying, time-management, and the ability to make sacrifices. Factors listed by the students that they felt helped them to succeed included:

1. help from the program assistants in setting up an academic plan taking reasonable courseloads (12-15 credit hours per semester) in their freshmen and sophomore years.
2. gaining confidence from the first two behaviors assisted in their organizational, self-determining and human relation skills.
3. such skills put them in an advantageous position to seek and accept help and advice from both their peers and professional staff.
4. these skills were listed as important to both their social adjustment and academic success. (p. 51)

Chickering (1969) set forth a theory of student development that consisted of seven vectors of development as follows:

Vector 1: Achieving competence,

Vector 2: Managing emotions,

Vector 3: Developing autonomy,

Vector 4: Establishing identity,

Vector 5: Freeing interpersonal relationships,

Vector 6: Developing purpose, and

Vector 7: Developing integrity.

To relate these vectors to the influences colleges and universities have on student development, Chickering (1969) "identified six major areas in which colleges and universities exert an influence (positive or negative) on student growth (pp. 22-23):

1. clarity of institutional objectives and the internal consistency of policies, practices, and activities (clarity, consistency, and seriousness about objectives, policies, programs, and practices are positively related to institutional impact);
2. institutional size (when size restricts opportunities for participation, impact is diminished);
3. curriculum, teaching and evaluation (curricular flexibility, variety in instructional styles and modes, student participation in learning, and learning-oriented evaluation promote impact);
4. residence hall arrangements (the close friendships and reference groups that develop can promote or inhibit personal development, depending upon the diversity, attitudes and values of the occupants);
5. faculty and administration (frequent, friendly contact in diverse settings with psychologically accessible adults will promote development); and
6. friends, groups, and student culture (student cultures amplify or attenuate other institutional influences on development, depending upon the degree of congruence between student and institutional values). (p. 23)

Summary

African-Americans find themselves in an environment where they cannot escape a past that enslaved them, separated them from many of the benefits of the dominant culture, and left them stigmatized both by the

dominant culture and themselves. Racism, while it is a segment of the news for most, solidifies everyday for African-Americans the idea that they are 'strangers in a strange land' (Allen, 1991; Asamen, 1989; Hall & Allen, 1989).

African-Americans have been under-represented in higher education, especially when one considers the proportion of degrees conferred. This lack of 'qualification' for the 'key' to a better life will tend to reinforce and continue, or worsen, African-Americans lack of representation among the those who will lead our nation into and through the 21st century (ACE, 1993; Weis, 1985).

Iowa State University developed the 891 Plan (Appendix B) in response to the Board of Regents mandate of 8.5% minority enrollment by 1991. Other "teams" have worked on various initiatives in response to minority student needs at ISU (Appendix.A).

Factors that influence retention are numerous. While all students have to deal with barriers to succeed, African-American students have additional barriers such as culture shock, alienation, feelings of isolation and lack of support, feelings of discrimination, unfamiliar teaching styles, stigmatization, conflicting cultural values, and feelings of beoming "lost in a sea of white".

Suggested factors that enhance retention included family support, affiliation with the institution and students, targeted interventions for specific groups, nontraditional teaching styles, academic motivation, understanding feelings of racism, positive self-concept, realistic self-appraisal, goal planning, leadership experience, respect from the faculty, assistance in academic planning, gaining confidence from high expectations, and seeking and accepting help and advice from peers and staff.

Racial identity, cultural values, and alienation and interaction styles appear to have some impact on the persistence and success of African-American students. While researchers and educators do not as yet have a clear understanding of the forces that affect the formation of racial identity (Cross, 1991), it is not entirely clear how black racial identity development affects the pursuit of a bachelor degree (Pascarella & Terenzini, 1991).

CHAPTER III. METHODOLOGY

The purpose of this study was to analyze the data routinely available to Iowa State University (ISU) during the selection and enrollment phase of African-American students to see if the factors these data represent are significant in predicting the university's success or failure in retaining these students through graduation.

Funding to gather the data for this research was provided by the Office of the Provost, The Office of Student Affairs, and the Office of Minority Student Affairs.

This chapter includes the setting of the study, the population studied, the data sources, and the statistical analyses used.

Setting of the study

The state of Iowa was the first state to accept the terms of the Morrill Land-Grant Act of 1862. In March 1864, the Iowa General Assembly awarded Iowa's "people's college" Land-Grant to what is today called Iowa State University of Science and Technology (ISU Bulletin, 1993).

Iowa State University is in Ames, Iowa, located in the central part of the state of Iowa. The racial mix of Iowa is ninety-seven percent (97%) white and three percent (3%) minority (Bureau of the Census, 1980). The racial mix of Iowa State University's undergraduate class during the 1992-93 school year was 6% minority and 94% white. African-Americans constituted 2.7% of the undergraduate student body (Office of the Registrar, September 15, 1992).

Approximately seventy-nine percent (79.3%) of the Iowa State University undergraduate population are residents of the state of Iowa. Another thirteen percent (12.6%) are residents from adjoining states (Enrollment Services Annual Statistical Report, Fall 1991) Approximately

eighty percent (80%) of minority students are not residents of the state of Iowa (Jackson, 1987).

Population

The population for this study consisted of all new (non-transfer) African-American freshmen whose official initial entry to ISU was Summer 1985 or Fall 1985. Data were collected on these students from initial entry date to the end of their enrollment at Iowa State University. The data were drawn through the Spring Semester 1992. The study considers the same time frame used by the Office of Institutional Research and the President's Council Report previously noted.

Data sources

Approval to gather data for this study was obtained from the university committee on the use of human subjects in research (Appendix D).

Data gathered for this research were based upon information ISU routinely requested during the admissions, registration, and financial aid application processes.

Admissions information was gathered from the Admissions Application Form and the final high-school transcript, and included:

- high school class rank
- ACT/SAT scores
- student residence status (in- or out-of-state)
- high-school courses completed and grades received.
- intended major

Financial aid information was gathered from federally approved financial aid applications submitted by the student. The Office of Student Financial Aid used the financial information to determine the student's educational financial need based on the educational costs of the student and to

award financial aid to the student. Need based financial aid cannot exceed the estimated financial “need” of the students.

This research considered four categories of financial need; 1) no need, 2) having need with awarded aid meeting at least 90% of need, 3) having need with awarded aid being less than 90% and equal to or more than 50% of need, and 4) having need with awarded aid being less than 50% of need. For this study, students who had no financial aid data on file were considered to be “no-need”.

All other data routinely gathered about students were part of the Registrar's information system and were gathered as part of registration for classes. The data this research considered included:

- Designation as a first-generation student (neither parent has received a bachelor's degree)
- Final transcripts
- Designation as athlete/non-athlete.

The data for this research were gathered by Administrative Data Processing from financial aid files (for students who applied for or were awarded non-need based aid) and the Office of the Registrar's data-base.

The independent factors coded and analyzed were:

- ACT/SAT score
- high school class rank
- designation as first-generation/not first-generation
- designation as athlete/not athlete
- percentage of financial need met
- gender
- Iowa resident/non-Iowa resident

The dependent variables considered were :

- Graduation within six years of initial entry to ISU
- Non-graduation within six years of initial entry to ISU.

The data were coded. Descriptive and discriminant analyses were done using the SPSS statistical analysis system at Iowa State University.

RESULTS AND DISCUSSION

The results of the study of the factors that predict retention and graduation at Iowa State University are presented in this chapter. A discussion of those results is then presented.

Results

105 African-American students enrolled at Iowa State University as freshmen directly out of high school for the Summer and Fall terms 1985 (Table 4). Of these 105 students, 66 were first-generation students, 93 were out-of-state residents, and 20 students were athletes. The cohort included 61 male students and 44 female students. The mean ACT score for those students who reported ACT/SAT scores was 15.2. The average ACT score for the entire undergraduate population at Iowa State University is approximately 24. The national ACT average for African-Americans is 18.7 (Jackson, 1987).

The average high school rank (HSR) for all African-American students was 63.74%. The data indicated that 103 out of 105 of these students received financial aid, the other two cases were missing and were assumed to have no need.

Out of the 105 student cohort, only 17 had graduated by the end of the 1991-92 academic year. This represents a 16.19% graduation rate.

The characteristics of students who graduated are listed in Table 5. Of the 17 students who graduated, 29.4% were athletes, 64.7% were first-generation, 10 were male and 7 were female, 15 were out-of-state students, and 16 out of 17 had between 90 and 100 percent of their financial aid met. The average ACT score (or the equivalent SAT) for the students who graduated was 18.38. The average high school rank for students who graduated was 66.88%.

Table 4: Characteristics of ISU African-American freshmen who entered Summer or Fall 1985

Number of students		N	105
Graduation status			Percent
	Graduated	17	16.2%
	Withdrew	88	83.8%
Athlete	Athlete	20	19.0%
	Non-athlete	85	81.0%
First-generation	First-generation	66	62.9%
	Not first-generation	25	23.8%
	No report	14	13.3%
Gender	Male	61	58.1%
	Female	44	41.9%
ACT score/ SAT equivalent	Mean		15.2
	Std dev		5.509
	Maximum		31
	Minimum		06
High school rank	Mean		63.74%
	Std dev		21.392
	Maximum		99
	Minimum		15
In-State/Out-of-state	Out-of-state	93	88.6%
	In-state	12	11.4%
Financial need met	100 - 90 percent	94	89.3%
	< 90 -50 percent	7	6.8%
	< 50 percent	4	3.9%

Table 5. Characteristics of students who graduated - ISU

Number of students graduated		N	Percent of graduated
<hr/>			
Athlete	Athlete	5	29.4%
	Non-athlete	12	70.6%
First-generation	First-generation	11	64.7%
	Not first-generation	6	35.3%
	No report	0	0.0%
Gender	Male	10	58.8%
	Female	7	41.2%
ACT score/SAT equivalent	Mean		18.385
	Std dev		6.423
	Maximum		31
	Minimum		10
High school rank	Mean		66.88%
	Std dev		19.710
	Maximum		99
	Minimum		35
In-State/Out-of-state	Out-of-state	15	88.2%
	In-state	2	11.8%
Financial need met	100 - 90 percent	16	94.1%
	< 90 - 50 percent	1	5.9%
	< 50 percent	0	0.0%

The discriminant analysis excluded 27 cases due to missing discriminating variables. The predictive formula was based on the remaining 78 cases that included 65 students who withdrew and 13 students who graduated. The graduation rate for this discriminant analysis group approximates that of the entire population studied (16.67 percent versus 16.19 percent for entire population studied).

Table 6: Discriminant analysis -- classification results

Actual Group	Number of Cases	Predicted Group Membership Withdrew	Predicted Group Membership Graduated
Group Withdrew	65	45 69.2%	20 30.8%
Group Graduated	13	5 38.5%	8 61.5%
Percent of "grouped" cases correctly classified: 67.95%			

The discriminant analysis classification results, listed in Table 6, indicated that, using the factors analyzed, there is not a definitive predictive equation that predict success (graduation) for African-American students at ISU. This may be because the group number for graduates was so small. Or, it may indicate that there are other factors contributing to the attrition, retention, and graduation of African-American students at Iowa State University.

The pooled within-groups correlations between discriminating variables and canonical discriminant function (variables ordered by size of correlation within function) are listed in Table 7.

Table 7: Pooled within-groups correlations

Factors	Pooled within groups correlations
ACT	0.71836*
ATHLETE	0.35558
HSRank	0.29959
First-gen	-0.27587
FINAIDmet	-0.22065
GENDER	-0.18624
IN/OUT-of-state	0.14516

*Significant at .05 level.

The only significant predictor for this analysis was ACT, followed in significance by athletic status, and high school rank. ACT score was assigned more than twice the weight of high school rank in predicting graduation, based on the data analyzed.

Discussion

Almost 65 percent of the African-American students are first-generation (neither parent has a 4-year degree). This would indicate that, with no parental experience with college, these students might easily have unrealistic expectations as indicated by Noel(1985).

The population of this study was composed of 61 males and 44 females. The population of ISU is approximately 60 percent male and 40 percent female.

The ACT average for the 105 students was 15.2, the ACT average for those who graduated was 18.4 and the ACT average for those who withdrew was 14.5. The national average ACT composite score for African-Americans is 18.7 (Jackson, 1987). The average ACT for all students enrolled at ISU is approximately 24 (Office of the Registrar, 1992).

The average high school rank (HSR) for students who graduated was 66.88 percent, HSR for the entire cohort was 64.11, the HSR for those who withdrew was 63.74 percent.

93 students were out-of-state and 12 were in-state students.

Of the 88 students who did not graduate 55 could have continued at Iowa State University if they had wished to continue. There were no exit interviews for these students so the reasons for their leaving cannot be assumed.

12 students who left ISU had college cumulative grade point averages (GPA) above 2.00. 23 of the students who left with a GPA below 2.00 would not have been on temporary enrollment if they had returned. 20 students could have reenrolled on temporary enrollment and continued at ISU, but did not return or withdrew. 33 of the students who left ISU before graduation were academically dismissed.

Four of the students who graduated were not in the upper one-half of their high school graduating class, and none of these four had ACT scores which were 20 or above. Two of the students who graduated, who did not meet the general or minority admissions criteria, were athletes.

Five of the 17 graduates were athletes. Being an athlete, with the nurturing process that is provided both academically and out-of-the-classroom, was the second most significant factor related to graduation.

Out of the 105 African-American freshmen students studied, only 17 had graduated by the end of the 1991-92 academic year. This represents a 16.2 percent graduation rate. The Office of Institutional Research indicated the graduation rate for this cohort was 26 percent six years after initial entry. A review of the data (Office of Institutional Research, Appendix E) indicated that there were 128 black students and the graduation rate was 25.8 percent. This means that 23 students were not represented in the data this researcher used to do this study, and that 33 students graduated, not 17.

Bergman (1993) stated that the difference in the numbers may be accounted for as Student Enrichment Program (SEP) participants who did not appear as summer or fall term first-time enrollees in the official data. This means that 16 out of 23 Summer Enrichment Program, African-American students who continued at ISU in 1985 graduated. This represents a 69.6

percent graduation rate for these students. There was no indication that these students may be the only African-American SEP students in the cohort.

The data were not available to combine these 23 students with the other 105 students used in these analyses. This study reflects the analysis of 105 students whose initial enroll to ISU was the summer of fall terms of 1985, and seems to indicate that there is a program which is effective in retaining African-American students at ISU.

The discriminant analysis classification results, listed in Table 6, indicated that, using the factors analyzed, there is not a definitive predictive equation that predict success (graduation) for African-American students at ISU. This may be because the group number for graduates was so small. Or, it may indicate that there are other factors contributing to the attrition, retention, and graduation of African-American students at Iowa State University.

Several of the studies in the literature review indicated that the highest attrition rates for students occur during the freshman year (Hartley, 1987 & Noel, 1985). A more recent report by the Office of Institutional Research, October 25, 1993 (Appendix F), extended data to include 1992 first-time freshmen. Information covering the 1990-1991 through the 1992-1993 school year, not reported in the 1992 report, were included. A review of the report shows that a larger percentage of African-American students have been retained through the first year, and the percentages of students retained through their second year has risen correspondingly. The 1991 freshmen class of African-American students had the highest first-year retention rate (85.2 percent) of all ethnic groups for that year in the report. These retention rates, along with the increased enrollment and degrees

conferred rates illustrated in Figure 4 and Figure 5, previously mentioned, seem to indicate greater success for these students in the years since the original study. Only through further and continued research can this be known.

CHAPTER V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

In August, 1985, 128 African-American students, directly out of high school, became freshmen at Iowa State University (ISU). As of the end of the spring semester, 1991, 33 of these students had graduated.

The purpose of this study was to analyze the data routinely available to Iowa State University (ISU) during the selection and enrollment phase of African-American students to see if the factors these data represent are significant in predicting the university's success or failure in retaining these students through graduation.

African-Americans find themselves in an environment where they cannot escape a past that has enslaved them, separated them from many of the benefits of the dominant culture, and left them stigmatized both by the dominant culture and themselves. Racism, while it is but a segment of the television news for most, solidifies everyday for African-Americans the idea that they are 'strangers in a strange land'.

African-Americans have been under-represented in higher education, especially when one considers the proportion of degrees conferred. This lack of 'qualification' for the 'key' to a better life will tend to reinforce and continue, or worsen, African-Americans lack of representation among the those who will lead our nation into and through the 21st century.

Iowa State University is concerned about its minority students and has set in place 'teams' to consider the problems facing these students.

Enrollment rates and numbers of degrees conferred have increased over the last several years. While the number of African-American students

enrolled increased by 278 percent between 1978 and 1993, the number of degrees conferred to African-Americans has increased by 342 percent.

Much research has been done to identify the factors that affect attrition and retention. Lack of preparation, as identified by lower ACT scores and high school rank, has been indicated to be the most significant factor that affects African-American student attrition. Students who have higher standardized test scores and high school rank do significantly better in graduating from ISU, but more must be done to support those students who are admitted to ISU who are high-risk.

Standardized test scores and high school rank, and the other factors ISU routinely gather data on, do not reflect all of the barriers faced by African-American students nationally or at ISU. Socioeconomic, psychosocial, cultural, and racial identity factors also have an influence on attrition and retention (Jackson, 1987; Walker, 1992).

Data that is routinely available to ISU during the admissions, financial aid, and enrollment process were gathered on the 105 African-American freshmen who entered during the summer and fall semesters of 1985. These data were coded and analyzed. The results of the analyses indicated that African-American students admitted to ISU cannot be predicted to graduate based on the data available, and psychosocial, socioeconomic, and cultural barriers they face. Not without substantial support from the ISU community, the President and governing board of ISU.

While enrollment and graduation rates and degrees conferred offer a way to consider the success of an institution, the environmental factors that, in part, affect these numbers, have not been considered in this study. Recent tension within the ISU community seems to be directly tied to the student

culture of African-American students in relationship to the institutional culture (Magner, 1993) they encounter at ISU.

Conclusions

It is apparent that Iowa State University is concerned about its African-American students, it is not apparent that Iowa State University fully understands the factors that influence the persistence and success of African-American students. The results of this study indicate that further research examining the factors that influence Iowa State University's ability to retain and graduate African-Americans is necessary. The commitment by the University President and top administrators of student services and academic affairs, and the governing bodies must be focused on those areas that will enhance African-American and other minority student success.

While it seems apparent that African-American students who have lower HSR and lower ACT scores are significantly less likely to graduate from ISU, are these cognitive differences inherent to African-Americans or are these factors related to feelings of alienation, perception that others (white students and faculty) consider African-Americans inferior? Are these conveyed feelings in part caused by racism on behalf of the society in which these students have been raised. Do ISU students, staff and faculty convey racist feelings based on lack of knowledge about differences in culture, learning styles, and a perception of African-American students who are dealing with an identity crisis based on incompatibility with a contrasting racial environment? More questions than answers are to be found from this research.

ISU admits students based on criteria that do not necessarily reflect their abilities. What research does the university utilize to evaluate their admissions decisions and academic and support services programming upon?

If Cross (1991) is correct in seeing the Encounter and Immersion-Emersion stages of racial development causing cognitive dissonance and an accompanying roller-coaster emotionality, this would relate to Chickering's first and second vectors. How can we expect students to be successful (graduation) if their cognitive abilities and emotions are disrupted by their racial developmental growth in a predominantly white environment? What environmental supports can ISU provide for these students as they develop through these vectors to Internalization? ISU must in some way "manipulate" (Clark and Crawford, 1992) the environment of the college to enhance African-American students' adjustment to and successful completion of college. To target "places where intervention [can] yield positive results" (Allen, 1992), ISU has, under the signature of the president of the university, recently distributed surveys to assess the climate for diversity at ISU. Researching the data from this survey will allow a better understanding of the complex relationships that form our campus culture(s), and provide an avenue to modify the environment to better serve and teach its students.

Recommendations

Michael Nettles (1991) recommended that universities focus their efforts for increasing African-American students college performance at these students' feelings of discrimination, their racial minority status, their employment patterns while attending the university and their high-school preparation, stating that these are four areas where African-Americans were found to be significantly disadvantaged compared to white students.

The Final Report of the Commission on the Higher Education of Minorities (1982) set forth the following recommendations:

- That college and universities strengthen their efforts to help under-prepared minority students improve their study habits and develop their basic skills, by offer tutoring, developmental courses, and academic counseling. Such efforts will not only benefit the individual student but will also help institutions financially by reducing student attrition rates.
- That colleges and university provide resources to establish centers where minority students can meet together for social and educational exchanges. Such centers can promote a sense of community, can help new students learn about the system, and can foster cultural identity, pride, and strength in such a way that minority students will be able to challenge as well as to enrich and broaden the traditional values of the institution.
- That minority students themselves, as well as local minority communities, be used as a resource in providing leadership and initiatives for the organization of such academic and personal support services, and that they be given a responsible role in decision concerning the operation and management of minority services.
- The trustees (Board of Regents), administrators, and faculties of colleges and universities give strong and visible support for the development of ethnic studies programs, so that the perspectives added by such programs will be available for the benefit of all students, minority and majority.

This researcher recommends the following:

1. The Office of Institutional Research should put in place a research program which allows a cooperative and coordinated review and analysis of factors that do affect all of the various groups

represented at Iowa State University. Considering the low graduation rate of African-Americans at Iowa State, this group should be given priority. This program would also identify “the strengths and weakness of various institutional factors—in the academic domain, in administrative policies and practices, and in students affairs” (Klepper, Nelson, & Miller, 1987, p. 27).

2. Financial support for those programs at Iowa State University that serve first-generation and low-income students. Other types of support support could include supervised and scheduled transportation home to the large urban areas from which ISU recruits these students; somewhat like the team bus that takes athletes to away games. ISU could fill one of the needs of its African-American students to help them maintain some attachment to an environment in which they are appreciated and recognized.
3. Some environmental commitment must be made on behalf of our minority students. This researcher recommends a cultural center that is more centrally located, that is modern (both structurally and technologically), and is something in which African-American and the ISU community can take pride. An African-American hair salon could be located in this center.
4. The most general change that could take place would be the understanding and embracing of African-American learning and living styles. Over eighty percent of the African-Americans in this study come from out-of-state. Most are from large, urban areas. ISU must realize that these students need cultural support or

be provided a way to create a culture within the ISU community where they are comfortable.

As President Jischke stated in the ISU Daily in response to taking initiative regarding the needs of minorities at ISU, "WE MUST . . .".

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APPENDIX A.

THE STRATEGIC PLAN FOR IOWA STATE UNIVERSITY:
A REPORT TO THE STATE BOARD OF REGENTS, APRIL 1990

THE STRATEGIC PLAN
FOR
IOWA STATE UNIVERSITY

A REPORT TO THE STATE BOARD OF REGENTS
April 1990

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Introduction: The Future Is Now!

In 1987, when Iowa State University began the strategic planning process, it did so with a strong sense of urgency: After five years of economic recession in Iowa, the university's infrastructure was deteriorating, the organization of research needed reinvigorating, and faculty salaries ranked the lowest among all of the university's peer institutions. As strategies and goals to remedy these problems became articulated in the planning process, the university wasted no time in acting to meet the defined goals. Already in place are numerous initiatives. These include new research institutes; several new technology development centers; competitive faculty salaries; and new recruitment programs, some specifically targeted at attracting minorities.

The following list is a brief and necessarily incomplete sampling of what has been achieved to date. We are indebted to the faculty, students, and staff, members of the State Board of Regents, and other public officials and individuals who, together, have made these achievements possible.

Undergraduate Education

✓An ad hoc Core Curriculum Committee of the Faculty Senate is examining ways to strengthen the liberal education of all students. The ad hoc Committee on Instructional Assessment and Evaluation of the Faculty Senate has just completed a report that recommends a process to create a comprehensive system for formative and evaluative assessments of learning aimed at improving the quality of undergraduate education.

✓In 1989, to ensure that Iowa State University athletes receive the best possible education at ISU, the president appointed an ad hoc committee to identify and assess current problems associated with student athletes' academic achievements and recommend solutions to these problems. The study was completed in February, 1990, and recommendations now are being evaluated for implementation.

✓In January, 1990, Iowa State University completed studies assessing current and potential students; the University will begin this year to use the results of these studies in a multifaceted recruitment program, with emphasis on special groups of students.

✓In fall, 1989, ISU moved to the top of the list among Iowa's higher educational institutions when it enrolled

40 new freshman National Merit Scholars. Tops in Iowa, and 38th among the nation's 366 colleges and universities that enroll Merit Scholars, ISU now also ranks 20th among the nation's 138 public institutions enrolling National Merit Scholars, thanks to our enhanced recruitment efforts.

✓In fall, 1989, ISU enrolled 11 freshman National Achievement Scholars, placing it first in Iowa, 18th among 156 U.S. colleges and universities that enroll Achievement Finalists, and tied for 8th among the nation's 76 public universities that enroll National Achievement Finalists. ISU also enrolled 26 freshman National Hispanic Scholars.

✓In 1989, ISU's College of Engineering received a five-year grant of \$1.3 million from the National Science Foundation for a minority scholars program to encourage talented minority undergraduate students in engineering to advance their education to the M.S. and Ph.D. degree levels and to seek academic careers.

Research

✓In 1989, ISU established the Utilization Center for Agricultural Products to help increase high-value uses of agricultural products, diversify and stabilize the agricultural sector, and improve the position of U.S. agriculture in domestic and international markets.

✓In 1990, NASA designated the Iowa Space Consortium as one of the 21 such consortia. Led by ISU, the Consortium is a partnership of the three state universities to enhance education, research, and service links with NASA.

✓In 1987, the Aldo Leopold Center for Sustainable Agriculture was established at ISU to coordinate research at ISU, other Iowa universities and colleges, and nonprofit agencies; the Center promotes agricultural systems that combine responsible stewardship of natural resources with farm profitability.

✓In 1988, ISU took the lead in establishing the Midwest Transportation Center, a regional research center of the U.S. Department of Transportation; the center is a joint venture between ISU and the University of Iowa.

✓In 1988, ISU signed a five-year research exchange agreement with the Moscow-based V.I. Lenin All-Union Academy of Agricultural Sciences, a first in formal agreements between the United States and the Soviet

academy. Activities include exchanges of delegations and research scientists and the development of joint research projects.

✓A five-year \$15 million effort is under way to provide enhanced agricultural research through the Iowa Agriculture and Home Economics Experiment Station.

✓ISU's Biotechnology Program, begun in 1986, continues to move in new directions through molecular biology research, with accomplishments receiving international recognition. Through funding for this program, more than 20 outstanding new faculty have been provided start-up funds for their research and several multi-user instrumentation facilities have been established. Ongoing research initiatives will be aided by the opening of the new Molecular Biology Building in 1991.

✓ISU is establishing a Consortium for Animal Health between the USDA National Animal Disease Center, ISU, and private industry. The goal of the consortium is to increase basic research activities as well as the commercialization of new and advanced animal health products.

✓In 1989, ISU established a USDA Center for Designing Foods to Improve Nutrition to study why consumers choose certain foods, ways to influence consumer choices, and what can be done to provide better nutritional choices while producing affordable products with consumer appeal.

Extension and Outreach

✓In 1987, ISU established the Integrated Farm Management Demonstration Program, a statewide effort of field demonstrations and educational programs for delivering best management practices for today's agriculture.

✓In 1989, ISU initiated the Iowa Public Policy Education Project, funded by a Kellogg Foundation grant, to design and implement an ongoing public-private partnership to support a nonpartisan, issue-oriented process for public policy education in Iowa.

✓In 1989, the ad hoc Committee for the Review of Outreach Programs completed a comprehensive study of ISU's extension programs. Implementation of its recommendations has begun with the establishment of the Vice Provost for Extension position.

✓In 1989, ISU began its Iowa Talent Search Program for academically gifted 7th and 8th graders. The program is designed to make gifted students and their parents aware of available services and help students receive the educations they need. More than 75% of those eligible in the state are participating this year, the highest participation rate of any program of its kind in the nation.

✓In 1990, ISU will host the Iowa Governor's Institute for Gifted and Talented; the institute provides 80 of Iowa's most talented 7th-9th graders with intensive and advanced educational opportunities designed to help them grow intellectually and socially.

Use/Integration/Study of Technology

✓In 1989, ISU opened several new state-of-the-art computer laboratories, including one dedicated to undergraduate English composition classes and another for calculus instruction.

✓In 1990, the Parks Library began installation of a new library automation system, including on-line catalog, circulation, serials controls, and database access.

✓In 1988, the College of Education established the Electronic Educational Exchange Program, linking student teachers with their professors on campus and with each other through a computer network.

✓In summer 1990, ISU will conduct a six-week institute on campus for college and university faculty, funded by the National Endowment for the Humanities. The institute will focus on the history of technology and science in American culture.

✓In 1989, the ad hoc Computation and Information Technology Advisory Committee recommended ways to enhance and integrate technology at ISU. Many of the recommendations are already being implemented.

✓In 1990, ISU will announce a public sector, private sector, and university partnership that will support the acquisition of state-of-the-art visualization workstations for key groups that need such support; increased access to user-friendly computer stations; improved networking capabilities with improved access to supercomputer centers, as well as parallel processors to allow access by applied mathematicians and computer scientists to cutting-edge technology.

Faculty Salaries

✓In 1990, as the result of a three-year effort, the salaries of assistant professors, associate professors, and professors at ISU are equal to or exceed the medians of faculty salaries at peer universities.

Organizational Initiatives

✓In 1987, ISU established the Institute for Physical Research and Technology, a federation of 10 research and technology development centers on campus that focus on physical and material sciences research. The Institute, which includes the Ames Laboratory, is Iowa's largest public technology development enterprise.

✓Effective 1990, ISU's College of Engineering has reorganized its departments to strengthen engineering education and research.

✓The Department of Food Technology in the College of Agriculture and the Department of Food and Nutrition in the College of Family and Consumer Sciences are joining to form a single department to be jointly administered by the two colleges.

✓A review of the biological sciences has recently been completed that will result in the merger and joint college administration of several key biological sciences departments to increase quality and better integrate basic and applied biological sciences.

✓The College of Education is in the process of restructuring the departments of Elementary Education, Secondary Education, and some areas of Professional Studies in Education into a Department of Curriculum and Instruction.

✓The programs in journalism and telecommunicative arts are now being consolidated into one department in the College of Sciences and Humanities to bring together programs in the print and visual media.

Strategic Planning

We're proud of all our accomplishments to date, and we look forward to the next five years during which Iowa State University will take giant steps

toward becoming the nation's preeminent land-grant university. We are confident that the following strategic plan will be our road map to getting there.

Iowa State began strategic planning in May 1987, when President Gordon P. Eaton appointed a 21-member Long-Range Strategic Planning Committee. The committee's reports, issued in November 1988 and January 1989, included recommendations to provide greater focus and to build upon the university's traditions and strengths to make a fine institution even better. The goals and strategies presented in this document are based on the work of that committee, modified to incorporate the suggestions that emerged during subsequent discussions and in the responses from the various constituencies of the university.

Iowa State University's strategic plan is a living document, to be revised and refined as the colleges and other administrative units develop their own plans and as changes occurring in the external environment require adjustments or present new opportunities. This document specifies the process by which strategic planning will continue and will be linked with periodic program review and tied to budget requests and allocations.

Vision and Aspiration

In November 1989, the Iowa State Board of Regents approved a revised mission statement and accompanying role and scope statements for each of the three state universities. The revisions in Iowa State University's mission statement emerged from a process that began with an ad hoc committee appointed by President Eaton, and continued by modifications recommended by the Long-Range Strategic Planning Committee and suggestions from faculty, staff, and students made at open hearings and through written responses. The resulting mission, role, and scope statements reaffirm the traditional mission of Iowa State and articulate institutional emphases more clearly than previous mission statements. Approved statements are included in Appendix A.

Vision

Iowa State University embraces its land-grant responsibilities with an institutional orientation toward science and technology. Building on traditional strengths in science and technology, Iowa State will become even stronger and more distinguished in providing outstanding service through its teaching, research, and outreach programs.

Iowa State University is dedicated to service, with pride in its high standards. Reflecting the values of the region — honesty, integrity, hard work, cooperation, friendliness, and humane concern — the University embodies the spirit of democracy and has been open to people of all backgrounds and persuasions since its founding. Iowa State University encourages the highest aspirations and intellectual development of all students, faculty, and staff; and it challenges them in the quest for new knowledge and its transmission, preservation, and application for the betterment of society.

Iowa State University is a diverse community that is inspired by the beauty of its surroundings and imbued with intellectual excitement and creativity. It is also a community where ideas are vigorously debated and rigorously tested and which understands the value of science and technology in today's world and appreciates the richness of human experience expressed through the arts and humanities. Iowa State University is a commu-

nity reaching out to serve other communities in the state, the nation, and the world.

Aspiration

The people of Iowa expect Iowa State University to be a premier land-grant university. The Board of Regents recently gave new impetus to this aspiration by directing Iowa State University to develop a five-year plan to become the best land-grant university in the nation. Iowa State University's plan seeks to build a stronger university through appropriate investment in the infrastructure and in selected program and support areas.

Appendix A, an essay on the establishment and evolution of land-grant universities, includes a discussion of the basic character, mission, and responsibilities of land-grant universities — a description that differentiates them from other universities. Some states, such as Illinois, Wisconsin, and Minnesota, combined the state university and land-grant university in one institution. Other states, such as Iowa, Michigan, and Indiana, established state universities separate from the land-grant university. In recognition of these two paths, Iowa State University seeks to become the best of the land-grant universities that are not also the state university. Such land-grant universities, henceforth referred to as "pure" land-grant universities, are distinguished from "composite" universities.

The best "pure" land-grant university is that university which most fully embraces, in the highest quality manner, the special character and orientation of the land-grant schools and, thus, most effectively fulfills its mission and responsibilities. With a tripartite mission — teaching, basic and applied research, and outreach — the best "pure" land-grant university achieves the optimum balance of efforts and overall performance in all three areas. For Iowa State University to deserve status as the best "pure" land-grant university in the nation, it must first be recognized as fulfilling its mission within the context of the state it was established to serve. Thus, the aspiration is to make Iowa State University the best possible land-grant university for the state of Iowa.

Environmental Assessment

External Environment

Iowa State University's five-year plan relies on two detailed analyses of the external environment that were conducted for purposes of strategic planning. The first analysis was part of the Long-Range Strategic Planning Committee's November 1988 report. This analysis focused on five aspects of the external environment identified as particularly important to the university's future:

- Iowa's population and age distribution
- Enrollment trends and projections
- Agriculture and its impact on the Iowa economy
- Iowa's business and industry
- Iowa's ability to support higher education.

For each aspect, the report presented historical data, current figures, projections, and discussion of the implications for Iowa State University.

The second analysis is the February 1, 1990 environmental statement of the Board of Regents, "The Context for Board of Regents Strategic Planning: Environmental Issues." This analysis of demographic, educational, economic, and technological issues and trends "sets the parameters within which Board of Regents' planning efforts must respond on a short- and long-term basis."

Presented below for each of the four areas examined in the Board of Regents environmental statement is a listing of the Regents assumptions, followed by discussion of the most important implications for Iowa State University.

Demographic Factors

Regents Assumptions

1. *The population of the state of Iowa is increasing slowly.*
2. *The concentration of the Iowa population will continue to shift from rural to urban areas.*
3. *Iowa will experience decreases in the number of high school graduates through 1992, with some fluctuation after that.*

4. *The elderly population of Iowa will continue to grow well into the next century.*

5. *The largest future declines in Iowa's population will be among children and young adults.*

6. *The total minority population in Iowa is expected to grow; but the composition of the growth will be primarily non-black.*

7. *Higher minority high school graduation rates have increased the potential pool of available minority applicants.*

8. *The decline in the population of high school graduates will result in lower college enrollments if the trend of increased college attendance does not persist.*

9. *The decline of the population of college-age students in Iowa could have significant effects on public and Regental policies relative to the continued vitality of independent colleges, especially with respect to joint and cooperative programs, the distribution of funding among post-secondary institutions, and tuition policies.*

10. *More non-traditional students will be served by Iowa institutions.*

11. *Competition to attract the traditional age student will increase significantly.*

Implications for Iowa State University

Projected declines in the number of high school graduates and the traditional college-age population (18-24 years old) present a serious threat to Iowa State University through the early 2000s. Even if the past trend of increasing percentages of high school graduates attending college continues, Iowa State must be more aggressive in recruiting qualified students directly from high schools and increasing transfer rates from community colleges. Similarly, Iowa State University must make appropriate adjustments in scheduling to make courses more accessible and attractive to adult students to enable them to combine higher education with employment on a full- or part-time basis. Special efforts also must be made to increase the num-

bers of minorities and women students and enrollments in graduate programs.

Iowa State will be competing with other colleges and universities which also are becoming more aggressive in recruitment efforts. Iowa State University can minimize adverse effects to the extent it prepares for, and responds to, the demographic changes and increased competition. Furthermore, Iowa State plays an important role in generating economic growth opportunities and transferring these for further development to the private sector. A positive impact by providing employment opportunities and other incentives not only helps retain the current population, but will attract others to Iowa.

Efforts to increase student retention rates must continue and expand, although Iowa State's retention and graduation rates already exceed those of comparable institutions. The retention rate for Iowa State appears to be the highest among the 29 four-year colleges and universities within the state of Iowa. Significant further increases in retention and graduation rates, therefore, will be difficult for Iowa State University to achieve.

Economic Factors

Regents Assumptions

1. *Economic growth of five to six percent a year with average real growth of one percent annually is expected for Iowa through the 1990s.*
2. *State tax revenues will increase by at least \$100 million per year through the 1990s.*
3. *The anticipated economic growth will result in increased competition among state agencies for a larger share of the total state appropriation.*
4. *It is anticipated that one or two recessions of one year tenure will be experienced in the coming decade.*
5. *The Iowa economy will follow the national economy more closely than it did in the 1980s.*
6. *Although economic growth is anticipated,*

higher education will have to compete for resources against other state agencies with pressing demands.

7. *The largest number of job openings in Iowa will occur in service occupations.*

Implications for Iowa State University

The nature of Iowa's economy, especially its current (albeit lessening) dependence on agriculture and agriculture-related industries, must be taken into account in planning for Iowa State University's future. Iowa State University should continue to aid Iowa's efforts to develop and diversify both the agricultural and nonagricultural sectors of the state's economy. Success in these areas can help to increase Iowa's population and to raise the rates of economic growth and increases in per capita income.

At the same time, heavy dependency on agriculture makes Iowa's state government revenues vulnerable to changes in U.S. government expenditures and international trade policies, as well as to shifts in foreign demand for agricultural products and related industries. Thus, Iowa's ability to support public higher education depends to a great extent on forces external to the state as long as the dependence prevails.

Through programs of instruction, research, and outreach, Iowa State University plays a significant role in achieving the state's economic objectives of improving the competitiveness of Iowa's agricultural products in U.S. and international markets. Thus, the University helps to diversify the product mix, find new markets, and improve the competitiveness of Iowa's industries.

State support for higher education in Iowa has been high relative to its revenue base; however, to achieve the goals of the Board of Regents for the three state universities, the state of Iowa must either devote a greater share of its current revenue to the Regent universities or increase tax revenues to generate funds needed to raise the quality of these universities to the levels of the nation's top public institutions with similar missions.

Educational Factors
Regents Assumptions

1. *The quality of the American educational enterprise will continue to be a major issue in the nation and in the State of Iowa.*
2. *The state of Iowa will maintain its distinction in the tradition of putting excellence in education among its top priorities.*
3. *The Regent system will raise the quality of its institutions to the levels of the country's top public institutions with similar missions.*
4. *Economic development will continue to be a major state concern. Universities will contribute to economic development through their research and instructional programs and outreach services.*
5. *Research in individual subject areas is still vitally important to the quality of Regent educational programs, despite the emphasis on research and economic development.*
6. *The political transformation of Eastern Europe will impact educational research agendas.*
7. *Eastern European developments will provide opportunities for scholarly exchange between that sector's educational institutions and U.S. institutions.*
8. *The rising cost of attending college will continue to draw the concern of the public. The Board of Regents has reflected this concern in its policy to limit tuition increases for resident students in the foreseeable future to no more than the rate of inflation.*
9. *The public will look increasingly to educational institutions to provide solutions to prevalent social problems.*
10. *The market position of educational institutions for students will become more important in the near future.*
11. *The rising cost of attending college means that Iowa institutions must continue to give*

attention to issues pertaining to accessibility, financial aid and alternative financing strategies.

12. *Educational leadership will be scrutinized and demands for greater accountability will continue.*
13. *The expected shortage of faculty that will impact institutions of higher education during this decade means that Regent institutions will have to excel in at least three areas: maintenance of salaries and benefits which will attract top faculty; creation of supportive environments for faculty development and growth in teaching and research; and acceptance of the responsibility to expand the pool of doctorates through strong graduate programs and adequate incentives to attract students to and retain them in graduate programs.*
14. *Public concern about the possible overuse of teaching assistants and the language proficiency of foreign teaching assistants will need to be addressed.*
15. *Globalization of the economy will create a demand for a workforce well-prepared in foreign languages, equipped with an understanding of world cultures, and educated in international economic and business practice and theory.*
16. *The growing number of job openings in service occupations will require education and training of the required workforce.*

Implications for Iowa State University

Iowa has a long tradition of commitment to excellence in education at all levels. Commitment to quality in higher education places heavy expectations and accountability upon the state's institutions for the financial support the state provides which, relative to its tax base, continues to be more generous than that provided in many other states. These features of Iowa public higher education are expected to continue in upcoming years.

For Iowa State University to achieve its full po-

tential, substantial increases in funding will be necessary. While a large part of the additional funds must come from increased state appropriations, Iowa State also needs to seek additional funds through external contracts, grants, and private giving. Increased revenues through higher tuition and fees are not probable for Iowa State University, because such increases would limit accessibility and prevent Iowa State from competing effectively with other institutions for students.

As the world's economies become increasingly interdependent, and artificial barriers to trade, cultural and educational exchanges weaken, Iowa State University's students must be educated for full participation in a global economy and society. This requires international curriculum and general education programs to develop international/multi-cultural awareness. Foreign teaching assistants can promote international understanding as they enhance the diversity of the campus, if they are fully qualified in communication skills as well as in their subject disciplines, and if their employment is designed to promote international understanding. Iowa State University must examine its use of international graduate students and take further steps to ensure appropriate training and employment.

The University must address the impending shortage of faculty through the means identified by the Board of Regents: maintenance of competitive levels of faculty salaries and benefits; efforts to promote faculty development and growth; and expansion of graduate education to increase the national pool of doctorates. In addition, Iowa State should initiate efforts to enhance the environment to promote faculty retention. Furthermore, Iowa State could benefit from advanced hiring in selected areas in order to minimize the adverse impact of the well-documented projections of faculty shortages in the next decade.

Technological Factors

Regents Assumptions

1. *Educational institutions have lagged in utilizing technology already available. This decade will be one of catching up in its application to higher education.*

2. *Technological innovation will continue to move rapidly through the economy and will dramatically impact the educational institutions' academic and administrative environments.*
3. *Technological advancement will directly impact the Regent system's ability to attract more non-traditional students.*
4. *Emerging technologies will improve opportunities for greater outreach by providing the means by which schools may more effectively improve access to academic programs by students who cannot come to campus during the traditional hours.*
5. *Issues related to privacy and personal rights created by computing and information technology will have to be addressed in the immediate future.*
6. *The consequences of rapid technological changes on the environment, health and safety will need to be addressed in this decade.*
7. *Iowa's statewide telecommunications venture will vastly improve information exchange and learning opportunities.*
8. *Advanced technology will demand additional personnel training and retraining.*
9. *Advanced technology will demand curriculum modification to accommodate new needs.*
10. *Personnel requirements will increase in some areas and decrease in other areas as a result of new technologies.*
11. *The cost associated with various modes of telecommunications will be reduced with time.*

Implications for Iowa State University

Technological assumptions set forth by the Board of Regents are especially significant for Iowa's university of science and technology. Iowa State's historical leadership in the use and development of technology must be enhanced as we move into the 21st Century. While Iowa State University now uses modern and emerging technology in some of its instruction, research, and

outreach programs, recent budget limitations have prevented it from staying at the cutting edge of technology in many areas. This problem must be addressed during the next several years if Iowa State is to achieve the aspiration of being the best land-grant university.

Although Iowa State should assertively continue to seek external funding and gifts in kind for state-of-the-art equipment, significant state funding will be required to purchase new technology to provide adequate training, personnel, and other support for its effective use and maintenance. The price will be high as academic programs that traditionally were not associated with technology develop technological demands and capabilities, and as all areas of the university integrate technology into their activities.

Iowa's statewide telecommunications network will provide tremendous opportunities to extend Iowa State University's outreach to broader audiences on a timely basis. This includes the delivery of off-campus credit courses as well as the dissemination of information through data transmission and various non-credit courses and programs. However, the network provided in the state's current plans will need supplementary funding for operating costs, program development and delivery, initial investments in hardware, and training to use the network effectively.

In addition to using modern technology in its teaching, research, and outreach programs, as well as in administrative and support functions, Iowa State has a special responsibility to educate students about the social, economic, and ethical policy aspects of technology. These aspects of technology should constitute part of the general education of all Iowa State University students.

Internal Assessment

Iowa State University has a proud history of developments and contributions in many areas. Recent internal analysis and evaluation are not intended as criticism of the institution, but as part of the process of a fine institution making itself even better. Iowa State can look at its past and present with a strong sense of pride in its accomplishments as it builds upon its strengths to meet the challenges of the next decade. Self aware and

stronger from internal planning, Iowa State University can move confidently to fulfill its mission for the good of Iowa and the world beyond.

Comparison Groups

During the past several years, Iowa State University has been using a group of nationally eminent land-grant universities — the "Land-Grant Eleven" — as its comparison group for various internal analyses concerning faculty salaries and productivity. These are:

University of Arizona
 University of California-Davis
 University of Illinois-Urbana
 Iowa State University
 Michigan State University
 University of Minnesota-Twin Cities
 North Carolina State University
 Ohio State University
 Purdue University
 Texas A&M University
 University of Wisconsin-Madison

Among the "Land-Grant Eleven," only six are "pure" land-grant universities: the University of California at Davis, Iowa State, Michigan State, North Carolina State, Purdue, and Texas A&M. The other five are "composite" universities functioning as both state land-grant institutions and state universities. While the profile of programs at the "composite" universities is broader than that of Iowa State or other "pure" land-grant universities, the overall high quality of all of these institutions makes them appropriate for inclusion in Iowa State University's comparison group.

If, alternatively, we define as an appropriate comparison group the "pure" land-grant universities — i.e., those that are comprehensive research universities in states that also have another comprehensive research state university — we can compare Iowa State University to a group of 22 "pure" land-grant universities. If we restrict this group to those institutions that are classified by the Carnegie Foundation as Research I universities, an appropriate comparison group for Iowa State would include the following 10 universities.

University of California-Davis
Colorado State University
Purdue University
Michigan State University
New Mexico State University
North Carolina State University
Oregon State University
Pennsylvania State University
Texas A&M University
Virginia Polytechnic Institute and University

our past tradition of seeking funding for single investigator research projects and should increase such efforts, we must move aggressively to obtain more program project grants involving multiple investigators in research targeted toward national goals.

Relative Standing: Strengths and Weaknesses

While there are no widely-accepted objective measures of the overall standing of universities, Iowa State University is clearly among the top five or six "pure" land-grant universities in the nation and has the potential to equal or surpass the best of all land-grant universities in areas of common programs.

Iowa State University is generally recognized as highly competitive with the institutions listed above in its undergraduate instruction and in its student support services. Nevertheless, we can further strengthen the quality of our undergraduate programs by enhancing the liberal education components and by other means identified in the sections on university-wide goals and strategies.

Iowa State University's outreach programs are also strong compared to those of peer institutions. These include excellent elements and have served Iowans well. Strategies identified in this plan can better integrate outreach efforts with teaching and research programs to make Iowa State a national leader in extension programming.

At present, Iowa State has several research and doctoral programs that are among the most distinguished in the nation. However, to be competitive with the best of our peers, we need to increase the number of nationally eminent programs within the next five years to between 12 and 15 programs. We also need to increase our external funding to build and maintain the quality of research and doctoral programs. In particular, Iowa State should attain a level of external federal funding that moves the institution from the Research II to the Research I category of universities within the Carnegie Foundation classification. While we must continue

Goals and Strategies

This chapter sets forth university-wide goals and strategies, describes the relationship of the university's goals to those of the Board of Regents, and identifies key indicators to be used to measure progress in achieving the goals. The goals, strategies, and performance measures exist for the university as a whole. They carry the expectation that each college and other major administrative unit will develop, within its own plan, more specific goals and strategies.

Institutional Goals

The university-wide goals concern five aspects of Iowa State University. The goals are presented below, with the desired characteristics for each of the five areas specified.

1. Foster an intellectually stimulating campus environment characterized by:

- Opportunities for all students, faculty, and staff to realize their academic and personal potential.
- Intellectual curiosity and vigorous debate of new ideas.
- Shared values of honesty, justice, equality, respect, and service to society.
- Diversity with respect to ethnicity, gender, and place of origin.
- High quality of student and community life.
- Awareness of and responsiveness to changes in the university's external environment within the framework of the university mission and the concept of academic freedom.

An intellectually stimulating environment will set the tone of the campus and promote more mission-oriented goals. Teaching, research, and outreach will flourish because the right campus environment encourages the pursuit of new knowledge and its transmission, preservation, and application.

2. Develop an outstanding undergraduate program characterized by:

- Continued accessibility unrestricted by social or economic status.
 - An increasingly diverse student population, high student retention and graduation, increasing numbers of high-quality undergraduate students, and maintenance of undergraduate enrollment at no fewer than 20,000.
 - A broad range of majors, with intellectually challenging curricula.
 - Enhanced liberal education components that ensure all undergraduate students, regardless of disciplinary major, literacy in science and technology; environmental awareness; communication and analytical skills; humane and ethical values; knowledge of the intellectual, historic, and artistic foundations of our culture; and international and multi-cultural awareness and sensitivity.
 - High-quality instruction that promotes active learning and responds to changing educational needs.
 - Opportunities for substantial dialogue and intellectual interaction among students, faculty, and peer groups.
 - Involvement of all faculty in undergraduate education.
 - Strong student support services, including advising, financial aid, counseling, and career planning and placement.
 - Cooperation with Iowa high schools and community colleges to facilitate the transition of students to four-year colleges and universities.
-

First and foremost among the missions of Iowa State University is that of providing an outstanding undergraduate education for its students. These characteristics build on and strengthen what already is a solid, well-respected undergraduate program.

3. Achieve outstanding graduate/professional and research programs characterized by:

- Demonstrated strength in all doctoral programs, including 12-15 doctoral programs with national reputations for distinction, most of which would be in science or technology.
- Expanded enrollment of degree-seeking graduate students (by 600 students), along with increased student quality and diversity.
- High quality of research, scholarship, and creative activity and increasing productivity of same.
- A level and diversity of funding sources for research to allow funding stability and flexibility for undertaking new initiatives as opportunities and needs arise.
- Where appropriate, strong efforts in the application and transfer of technology to support the state's economic development.

For Iowa State to be a great university, it must have strong graduate and research programs, with a significant number of these programs recognized nationally and internationally for quality and productivity. Because Iowa State's distinctive mission and responsibilities lie in the areas of science and technology, a majority of its top graduate and research programs will be in these areas. Iowa State will continue to achieve distinction in other areas where it has outstanding faculty, to the extent that adequate financial resources and facilities can be provided to support these areas.

4. Provide outstanding extension programs and other outreach appropriate to the needs of the state and

beyond and characterized by:

- Integration of teaching, research, and outreach efforts within and across the disciplines to address existing and anticipated needs.
 - Emphasis on agriculture, protection of natural resources, human needs, and community resource development, and assistance in the development of economic opportunities to strengthen and diversify the economic base of Iowa.
 - Linkages with governmental units and agencies at national, state, and local levels; connections with research programs elsewhere, cooperation with the private sector to provide clientele with quality information; and leadership in developing information-sharing arrangements on a regional and national level.
 - Expanded off-campus offerings of credit courses and degree programs, developed through appropriate cooperation and in coordination with other public institutions of higher education within Iowa and with emphasis on serving adult and other non-traditional students whose geographic locations preclude attendance at an Iowa public university.
 - Provision of non-credit courses and workshops to meet the needs of Iowans and to promote life-long learning.
 - Developing communication technologies for more efficient and effective program delivery.
 - A working partnership with other educational institutions to enhance the quality of primary, secondary, and higher education in Iowa.
-

Iowa State's outreach responsibilities are broad and require the involvement of the entire university. In addition to providing practical knowledge and objective information to the various clientele groups within the state, Iowa State University should be a national leader in developing information-sharing arrangements and extension programming on a regional and national basis. This direction will be possible with the increasing use of advanced and emerging communications technologies. The same technology can also provide additional off-campus credit courses to the growing population of adult students whose employment or other responsibilities or circumstances prevent attendance on campus.

5. Establish national stature for Iowa State University in the effective use, integration, and understanding of technology, characterized by:

- A technological thrust in a wide variety of disciplines throughout the university.
- Courses and programs that promote technological literacy as part of the liberal education of all students.
- Study and understanding of the social, economic, historical, ethical, and policy aspects of science and technology through courses, programs, and research.
- Effective applications of advanced technology to classroom, laboratory, and studio instruction throughout the university.
- Appropriate computational and telecommunications equipment in faculty offices and research laboratories.
- Library automation and electronic access to data bases.
- State-of-the-art telecommunications capabilities within and external to the university.
- Innovative technology throughout the support and administrative sectors of

the university.

- Professional development and training for faculty and staff in the effective use of technological resources.

As the state's university of science and technology, Iowa State should develop a position of national standing in the effective use, integration, and understanding of technology. All students, regardless of disciplinary major, should have a basic understanding of technology and the issues that surround public policy toward technology. In addition, a wide range of program areas should establish technological emphases within their programs. Modern and innovative technology should be available for use in all teaching, research, and outreach programs of the university, as well as in the support areas. All faculty and staff should have a range of opportunities available to them to learn how to use technology effectively.

University-Wide Strategies

Numerous specific strategies have emerged during the several years of strategic planning at Iowa State University. In this plan, we focus on a more limited and manageable set of university-wide strategies to implement during the next five years in order to achieve the goals and overall aspiration for the institution. As mentioned earlier, each college and other major administrative unit is expected to develop, within its own plan, more specific strategies for contributing to the fulfillment of the university-wide goals, as well as to achieve unit-specific goals.

The major university strategies are:

1. Launch a comprehensive effort to improve the quality of undergraduate education.

The quality of undergraduate education at Iowa State University can improve through a multifaceted approach that includes what we teach, how we teach, and how teaching is assessed and rewarded. As stated in the goals, Iowa State should develop enhanced liberal

education components for all undergraduate programs. Furthermore, Iowa State should implement a program of writing and speaking across the curriculum. Periodic curriculum review and revision should take place to ensure strength, currency, and intellectual challenge in all undergraduate programs.

In its course offerings, Iowa State should provide a mix of section sizes so that every student has a reasonable number of courses which are sufficiently small to provide substantial interaction among faculty and students and peers. Iowa State also should offer undergraduate research opportunities, internships, co-op projects, and other programs to promote individual student-faculty interaction, to allow students to individualize their academic programs, and to prepare them for graduate study or careers. Special programs for outstanding students, especially those offered through the Honors Program, should be expanded and enhanced. The university should continue to offer strong student support services, including advising, counseling, and career planning and placement, as well as other special services designed to increase retention and graduation rates. In addition, Iowa State needs to upgrade instructional and laboratory facilities and equipment.

All faculty should be involved in teaching undergraduate courses and revising undergraduate curricula, and the best faculty should teach introductory courses. We should reduce our reliance on temporary faculty, and we should take steps to ensure the appropriate employment of, and provide adequate training for, qualified teaching assistants.

Iowa State's five-year strategic plan calls for the addition of 60 tenure-track faculty positions. Each of the 60 new positions should carry both teaching and research responsibilities, but half of these positions should be allocated specifically to strengthen undergraduate programs and the other 30 positions should be allocated to strengthen basic and applied research and technology transfer.

Among the 30 new tenure-track faculty positions designated for strengthening undergraduate education, 24 positions should be

added in areas of high student demand where we currently either must turn students away or handle them in excessively large classes. The latter provide little opportunity for interaction between faculty and students; they also severely limit the use of written and oral reports and essay examinations. These 24 new faculty positions would not only fill high-demand areas but, would achieve other university-wide goals including affirmative action, internationalization of the curriculum, and efforts to integrate modern and developing technologies into the various academic programs. The other six new tenure-track faculty positions would fill instructional roles identified as strategically important to the university's future. In addition to these 30 new faculty positions, undergraduate education also requires 150 new full-time-equivalent teaching assistant positions.

To improve its assessment of teaching and help faculty members and teaching assistants teach more effectively, Iowa State will establish a university-wide Teaching Excellence Center. In addition, high-quality teaching will be recognized and rewarded through merit salary increases, promotion and tenure decisions, awards and honors, and other appropriate means.

2. Implement an aggressive communication and student recruitment effort.

Iowa State's student recruitment effort should be aimed at attracting the desired numbers, quality, and diversity of applicants for the university's undergraduate, professional, and graduate programs. The recruitment effort should be designed to reach qualified students and to attract them by increasing their awareness of the quality and variety of academic programs, co-curricular activities, and student services. Department and program faculty should assist in a coordinated effort to recruit potential students.

Adequate financial aid packages should reach all qualified students whose economic circumstances require such help. In addition, competitive scholarships should be available for targeted groups of potential students, in

particular for minorities, women in nontraditional fields, and top students. In order to serve these students properly, Iowa State must be aggressive in hiring women and minority faculty. Special programs for the support, retention, and development of these students also should be provided and publicized. Stipends and work assignments for graduate assistants should be competitive with those of peer institutions. In particular, full tuition scholarships should be provided for all graduate students on assistantships. To attract top graduate students, Iowa State should also establish a graduate fellowship program. We also should expand gift and foundation-funded fellowships for individual disciplines and areas.

Special efforts will attract nontraditional students for full-time enrollment on-campus and for part-time enrollment in programs offered on- and off-campus. To meet the needs of these students, Iowa State should conduct a study of the feasibility of offering in the evenings, on weekends, and during the summer session a wider range of credit courses that comprise undergraduate and graduate degrees.

3. Expand programs, incentives, and rewards for faculty and staff development and renewal.

Iowa State University must expand its programs, incentives, and rewards for faculty and staff development and renewal. Knowledge and new technologies are developing at an ever-increasing pace, making it increasingly difficult for faculty and staff to keep abreast of these developments and learn how to incorporate them into their work. The projected shortages of new faculty members for the upcoming decade and the aging of the current professoriate also contribute to the need for expanded development and renewal efforts.

Iowa State needs to evaluate its current faculty and staff development programs and expand its overall efforts in this area. While some programs may be offered on a university-wide basis, others should be specific to individual disciplines or groups of employees. Thus, the strategic plans for the colleges and other major administrative units should address needs particular to their units and employees.

On a university-wide basis, Iowa State should expand its Faculty Improvement Leave program, making it available to more faculty. In addition to a formal leave program, Iowa State should increase released time for specific development efforts. The establishment of a university-wide Teaching Excellence Center would be part of the expanded development program, to be used by graduate teaching assistants as well as faculty members. Special programs and support should be provided through the Teaching Excellence Center in such areas as integrating computers and other advanced technologies into the classroom and instructional laboratory; modifying existing courses for off-campus delivery via telecommunications; assessing and developing teaching abilities and effectiveness; implementing written and oral communications requirements in programs not traditionally emphasizing these communication skills; and developing better teaching techniques to promote active learning.

Iowa State also should expand the availability of on-campus training and development programs for staff, especially in areas where the effective use of new technology requires upgraded skills and an understanding of its applications. Administrative staff also need access to development programs to help them become more effective managers and supervisors.

While many of the development programs mentioned above can be provided on campus, Iowa State needs to provide funding for travel support and registration fees for Iowa State personnel to attend appropriate workshops and conferences held off-campus and to visit other universities or agencies to study model programs or to work with national leaders.

4. Strengthen basic and applied research and doctoral programs.

As an essential part of its college planning efforts, Iowa State must identify and target the research and doctoral programs capable of maintaining or achieving national distinction. Strength in all doctoral and research programs can be assured through periodic academic program review, including both self-study and external peer review. In addition to the 30 new faculty positions are needed to strengthen undergraduate

education, 30 new tenure-track faculty positions needed to build a critical mass of faculty in selected disciplinary and interdisciplinary areas in which Iowa State University is, or should be, on the cutting edge of research and development.

To stimulate the research and technology transfer contributions of faculty and staff, Iowa State needs to provide clear expectations for research productivity, and reward such contributions through merit salary increases, promotion and tenure decisions, awards and honors, and other appropriate means. A portion of research funding should be made available on a competitive university-wide basis, through internal and external peer-review mechanisms, to support relevant areas of basic research. Funds to initiate research projects leading to external support for continuation or expansion are also important.

Iowa State University will increase its external funding in a number of ways: by increasing expectations that faculty and staff obtain external funding in areas where it is available and appropriate; by providing adequate support for grant preparation and grant administration; by increasing the incentives and rewards for external funding; by establishing a mechanism to continue necessary support for projects temporarily without grant support; and by creating organizational structures and other flexible mechanisms that promote external funding, especially through effective coordination of centers, institutes, and interdisciplinary research programs.

5. Enhance the effectiveness and integration of Iowa State University's outreach programs.

The Vice Provost for Extension will work with the college deans to integrate teaching, research, and outreach efforts within and across the university's disciplines by expanding the use of faculty appointments that are jointly budgeted between extension and academic departments; by encouraging faculty and staff who do not hold budgeted extension appointments to participate in outreach activities; by recognizing and rewarding extension contributions through merit salaries, promotion and tenure and tenure decisions, awards and honors, and other appropriate means; by staffing off-campus credit courses as part of the normal teaching assignments of tenure-track faculty; and

by including the cost of off-campus courses within the university's instructional budget. Each department and college should embrace an appropriate outreach responsibility as an integral part of its mission and should coordinate its outreach efforts with those of other units.

Iowa State University should assume national leadership in developing information-sharing arrangements and extension programming to provide the best information available. Current and emerging communications technologies should increase be used for the delivery of programs developed at Iowa State. Iowa State should expand its capacity to develop and transmit through advanced communications technologies programs that are recognized for high quality and are appropriate for their target audiences.

Iowa State University will be more involved in efforts to increase coordination among educational institutions and systems within Iowa. In particular, Iowa State should work closely with K-12 systems to enhance the quality of education in Iowa schools and to prepare students for higher education. Special attention will focus on the preparation of minority students and the encouragement of females to pursue nontraditional programs and careers. Iowa State should lead the coordination of Iowa's public institutions of higher education to provide a full range of post-secondary educational opportunities and continuing education. Coordinated efforts with respect to programs, clientele, and geographic areas will ensure that the priority needs of Iowans are addressed.

6. Obtain and effectively utilize modern technology throughout the university.

As discussed earlier, Iowa State University of Science and Technology should make a major investment in acquiring and putting into use state-of-the-art technology throughout its teaching, research, and outreach programs as well as in its administrative and support areas. A large investment of state funds must go to purchase the technology, add technical staff to maintain and integrate it, and provide professional development and training for faculty and staff. A five-year effort will enable Iowa State to lay the tech-

nological foundation upon which to build national leadership during its second five-year plan.

7. Rebuild and strengthen the institutional infrastructure, by providing adequate funding for personnel, equipment, facilities, and operating expenses.

In recent years Iowa State's infrastructure has deteriorated, a trend that must be reversed. Particular attention must be given to the Parks Library which, despite special funding in recent years, continues with inadequate budgets for acquisitions, personnel, and operating expenses. The Parks Library requires new funds also for expanded automation and electronic access to databases.

More generally, Iowa State University now suffers from inadequate increases in funding for department supplies and services, for university-wide facilities operation (e.g., utilities, custodial services) and for maintenance and improvement of the university's physical infrastructure. In addition, many units have a shortage of technical or clerical support staff, a deficiency which limits the productivity of the faculty and professional staff.

High-quality instructional, research, and outreach facilities should be ensured through a combination of state, federal, and private funding. As noted elsewhere in this strategic plan, Iowa State University intends to develop during 1990-91 a ten-year campus master plan that addresses the need for new and renovated campus facilities. The master plan will be integrated into Iowa State's strategic plan when the five-year strategic plan is updated during the Spring of 1991.

8. Seek and obtain a significant investment from the State of Iowa to make possible the preceding strategies and to accelerate the attainment of Iowa State's strategic goals.

A major infusion of resources is needed to achieve the strategic goals of Iowa State University. Efforts already are underway to increase external funding for research and private support from alumni and friends of Iowa State University. Some internal reallocation has occurred and will

continue. Internal reallocation is severely limited by the use of such funds in recent years to cover increased costs in other categories of the university's budget and to provide seed money to initiate selected research and technology transfer efforts.

If Iowa State University is to move ahead promptly to implement its strategic plan, a significant investment of state funds will be necessary during the next five years. New state funds will create additional positions for faculty, graduate assistants, and support personnel; will purchase modern technology; will boost student recruitment efforts; will support faculty and staff development; and will rebuild the institution's infrastructure.

Relationship of Iowa State's Goals and Strategies to the Board of Regents Goals

At its September 1989 meeting, the Board of Regents formally approved its goals and strategies for the 1990-94 planning cycle. The Regent's approved goals are listed below, each followed by a parenthetical reference to Iowa State University's goals (indicated by a "G") and strategies (indicated by an "S") that relate to that Board of Regents goal. As indicated by the extent of cross-references to Iowa State's strategic planning goals and strategies, Iowa State's plan is highly consistent with the planning goals of the Board of Regents.

Regents Goal 1: Ensure that quality teaching remains a key priority within all Regent institutions. (ISU G2, S1)

Regents Goal 2: Foster and maintain undergraduate instructional programs of high quality. (ISU G2, G5, S1, S3, S6, S8)

Regents Goal 3: Enhance the quality of graduate and professional education. (ISU G3, G5, S3, S4, S6, S8)

Regents Goal 4: Strengthen research and

other creative work at the Regent institutions. (ISU G3, G5, S3, S4, S6, S8)

Regents Goal 5: Attract, develop and retain faculty, staff and students high in quality and diverse in gender, race, ethnicity and nationality. (ISU G1, G2, G3, S2, S8)

Regents Goal 6: Improve the facilities, equipment and operating budgets basic to strong programs of teaching and research at the Regent institutions. (ISU G2, G3, G4, G5, S1, S4, S5, S6, S7, S8)

Regents Goal 7: Improve access by all Iowans to Regent universities. (ISU G2, G4, S1, S5)

Regents Goal 8: Escalate efforts to increase the participation of minorities in higher education. (ISU G1, G2, G3, S2)

Regents Goal 9: Develop and implement effective marketing strategies for each university. (ISU G2, S1)

Regents Goal 10: Emphasize efforts to raise private funds, especially to support innovative programs falling outside the categories recognized by government agencies. (ISU S2, S4)

Regents Goal 11: Improve the flexibility, efficiency and accountability of governance throughout the Regent system. (ISU G1, G4)

Regents Goal 12: Contribute to the economic development of the state. (ISU G3, G4, S4)

Regents Goal 13: Encourage cohesiveness and cooperation within the Regent system. (ISU G4, S5)

Performance Evaluation Measures

Throughout the planning process at Iowa State University, numerous performance measures have been suggested for assessing the institution and for monitoring progress toward achieving the university's strategic planning goals. Iowa State will continue to collect and analyze data and other information and will issue various reports concerning specific aspects or segments of the institution and its performance. In this section, however, we identify a limited number of key indicators to determine the extent to which the university as a whole makes progress in upcoming years in achieving its strategic planning goals and overall aspiration.

Some of the performance indicators are quantitative and can be subjected to objective analysis, but other indicators are qualitative in nature and are more difficult to measure. As Iowa State University implements ongoing strategic planning, it will refine and develop a comprehensive evaluation process to be incorporated into updated strategic plans. Furthermore, all major administrative units, including the colleges, will provide, within their specific strategic plans, their own performance measures and key indicators of progress.

Key indicators proposed for measuring progress in achieving the strategic planning goals follow below. Current levels and trends will be monitored and, where available, comparisons will be made with peer institutions.

1. *Student enrollment and diversity*

- Total enrollment
- Undergraduate, professional, and graduate enrollments.
- Off-campus credit course enrollment.
- Enrollment by gender, ethnicity, and economic background
- Enrollment by state and nation of residence.

2. *Quality of students*

- ACT scores and high school rank of entering students.
- Numbers of National Merit, National Achievement, and National Hispanic Scholars, National Science Foundation Fellowships, and other national awards, scholarships, and fellowships.
- Scores of entering graduate students on relevant admissions tests, including Graduate Record Examinations and the Graduate Management Aptitude Test.

3. *Student retention and graduation rates*

4. *Student outcomes assessment indicators and academic program quality indicators*

- Placement of graduates.
- Percentage of undergraduates entering graduate and professional programs.
- National awards and honors to students and graduates.
- Performance of students on national tests, including the Graduate Record Examinations, Law School Admissions Test, Graduate Management Aptitude Test, and tests for certification in various professional programs.
- National ratings of Iowa State's academic programs by peers.
- Results from student and alumni surveys of program quality.

5. *Faculty and staff characteristics*

- Numbers of faculty and staff in total and by gender and ethnicity.
- Numbers of faculty by rank and tenure status.

6. *Faculty productivity and quality indicators*

- Teaching, research, or outreach awards given by national professional associations.
- Student credit hours per full-time-equivalent faculty.

- Refereed publications and citations.
- Juried exhibitions, invited lectures, shows, and recitals.
- Number and percentage of faculty with active research programs.
- Number and percentage of faculty with externally funded research programs.
- Selection of faculty for prestigious invited memberships, e.g. the National Academy of Science.
- Prestigious positions held in major national organizations, as members of review panels, and editorship positions for top journals.
- Results from surveys of clientele concerning quality and appropriateness of outreach programs.

7. *The annual level and sources of externally funded research and achievement of status as a Research I university within the Carnegie Foundation Classification of Institutions of Higher Education.*

8. *The annual level of gift support from alumni and friends.*

Ongoing Strategic Planning and Program Review

Following the recommendations of the Long-Range Strategic Planning Committee, the 1989 Peat Marwick report on "Strategic Planning and Management Process," and the directives of the Board of Regents, Iowa State University commits to implementing ongoing strategic planning for the university as a whole, as well as for its various units. Through ongoing planning the university can monitor its internal and external environments and can adapt to meet challenges and opportunities.

The five-year plan presented in this document serves as the starting basis for Iowa State's ongoing strategic planning. Ongoing planning builds upon planning activities and initiatives already launched during the last several years.

Iowa State University's ongoing strategic planning process incorporates the following recommendations that emerged from Iowa State's planning discussions, and were strongly endorsed in a 1989 Peat Marwick report:

- Broad-based input into the planning process is essential at all levels and within all units of the institution; and coordinating strategic planning should be a responsibility of every administrator.
- Budget requests and resource allocations at all levels should be based upon, and be consistent with, the goals and priorities established through strategic planning. Nevertheless, there must be sufficient flexibility to enable the institution and its various units to respond to unanticipated events and to take advantage of unforeseen opportunities as they develop.
- The Office of the Provost shall oversee and coordinate strategic planning within the university, although much of the detailed planning and implementation will be done at the unit level. The President will develop and coordinate mechanisms to gain input from off-campus constituencies, such as alumni and the general public.
- Staff support for the ongoing planning process at the institutional level will be located within the Office of the Provost. There will be close ties between the planning staff in the Office of the Provost and the staff in the Office of Institutional Research. Responsibilities of the planning staff at the university level will include the following:
 - Coordinate academic and nonacademic program reviews.
 - Identify and analyze the impact of, and the opportunities and challenges provided by, trends and changes in the environment external to Iowa State University that affect the entire university or multiple segments of the institution.
 - Develop appropriate data bases and monitor internal trends and changes.
 - Monitor the extent to which resource allocations reflect priorities established through the planning process.
 - Monitor progress in strategic planning and assess the outcomes of strategic planning;
 - Propose ways to improve the planning process.
- The university strategic plan should be revised periodically but should focus initially on the next five to 10 years. Colleges and other major administrative units should develop strategic plans consistent with the university plan, and with unit-specific goals and objectives; similarly, academic and nonacademic departments should develop strategic plans consistent with college and administrative unit plans, as well as with the university plan. These plans will be reviewed at the university level to ensure consistency with the university plan.
- To address issues that span multiple organizational units, ad hoc study groups will analyze particular issues and make recommendations to be subsequently incorporated into the plans of appropriate units.

- A special pool of central funds will contribute to achieving the highest priorities of the university's strategic plan. Sources of such a university pool of funds include: (a) new funds from state appropriations; (b) new funds from private sources; and (c) annual reallocation among colleges and other major administrative units. Priorities for requests for new funds from state appropriations and from private sources should, to the extent possible, be consistent with the university's strategic plan.

Iowa State University has begun implementation of some recommendations. In particular, the position of Associate Provost, with major responsibilities for coordinating strategic planning and monitoring the linkages between planning priorities and budget requests and resource allocations, was filled in January 1990. In addition, budget requests are already being tied closely to Iowa State's strategic planning goals and strategies. Efforts are underway by the Office of Institutional Research to develop an on-line data base for planning and program review, for monitoring internal trends, and for making comparisons with peer institutions. Finally, a position of Director of Facilities Planning was filled effective March, 1990. This person will play a major role in developing the ten-year campus master plan during the 1990-91 academic year.

Academic Program Review

Also to be implemented during the 1990-91 academic year as an essential part of ongoing strategic planning is comprehensive periodic review of academic programs that involve both self-study and external peer assessment. The major features of these reviews are summarized below.

Purpose. The objective is to provide a reliable mechanism for monitoring the status and progress of academic programs and to provide a consistent basis for decision-making and resource allocation within departments, colleges, and the university as a whole. In particular, such a process will determine the extent to which the goals of the university and college strategic plans are being fulfilled, as well as to develop revisions for future strategic plans.

Responsibility for scheduling and monitoring the reviews. The Office of the Provost together with the academic deans will determine the schedule of program reviews. While programs will be reviewed on a regular seven-year cycle, individual program reviews will be scheduled to coincide with other reviews (such as those for accreditation or other external purposes) or to address a special concern about a particular program. Every effort will be made to minimize additional work for individual units.

The Office of the Provost will work with the appropriate academic deans to establish a timetable for the departmental self-study and for the external visitation and the selection of the visiting team, whose members will be recognized peers from other universities. Workshops will be conducted for program self-study coordinators and other departmental and college personnel actively involved in the review process. The reports of the self-study and of the external team will be submitted jointly to the provost and the appropriate academic dean(s). Departments involved will review reports and provide the provost and dean with written responses regarding findings and recommendations. There will be follow-up over time to assess the extent to which recommendations have been implemented. The deans will monitor, on a continuing basis, the progress of the units for which they have administrative responsibility.

Criteria for academic program review. The instruction, research, and outreach activities of the program will be reviewed in terms of a common set of criteria. The most important criteria must be program quality, although each program should also be reviewed with respect to centrality to the university mission, demand, comparative advantage/uniqueness, and financial considerations. In addition, each program will be evaluated in terms of its relationship to, and consistency with, the university and college strategic plans.

Centralized data bases. To the extent possible, the Office of the Provost, in cooperation with the Office of Institutional Research, will collect, summarize, and analyze the data for

the comprehensive review of academic programs. In addition to providing the basis for reports of both historical information and projections, the data will be available in an electronic form that administrative units can access to perform their own analyses using personal computers and widely available software. Workshops will help administrative personnel understand how to interpret and analyze the data. Centralized training will also concern data bases that need development and maintenance.

Review of Nonacademic Units and Support Services

During 1990-91, a detailed protocol will be developed for the review of nonacademic units and support services, consistent with the following general guidelines. Review of nonacademic areas and services will be comparable (as appropriate) to the review of academic programs in terms of: the degree of comprehensiveness; the periodic nature; adequate data bases for evaluation; responsibility for coordination and staff support; and the process of internal self-study followed by external review. The evaluation of nonacademic areas and services will focus on the extent to which they provide support for the achievement of the university's mission in the interrelated areas of teaching, research, and outreach. To do so, the reviews and evaluations will involve persons with academic appointments, nonacademic personnel, and users of the services.

Development of a Campus Master Plan

As mentioned above, Iowa State University will develop during the 1990-91 academic year a revised ten-year campus master plan. Annual updates of the current five-year plan will incorporate the master plan into the budget requests. Currently, the highest four priorities for new buildings and additions at Iowa State University (Sweeney Hall Addi-

tion, Livestock Units for Swine and Cattle Research, the Intensive Livestock Research Facility, and the Innovative Instruction and Research Building) mesh with the goals and strategies of Iowa State's plan and thus will remain priorities in the new campus master plan.

Appendix A

Mission and Role and Scope Statements (Approved by the State Board of Regents, November, 1989)

Mission Statement

Iowa State University of Science and Technology is a public land-grant institution serving the people of Iowa, the nation, and the world through its interrelated programs of instruction, research, extension, and professional service. With an institutional emphasis upon areas related to science and technology, the University carries out its traditional mission of discovering, developing, disseminating, and preserving knowledge.

Iowa State University provides high quality undergraduate programs across a broad range of disciplines, as befits the institution's stature as a university. In its dedication to excellence in teaching, the University strives to instill in its students the discernment, intellectual curiosity, knowledge and skills essential for their individual development and their useful contribution to society. A common goal of undergraduate education is to assure that all students, regardless of disciplinary major, acquire literacy in science and technology, an understanding of humane and ethical values, an awareness of the intellectual, historical, and artistic foundations of our culture, and a sensitivity to other cultures and to international concerns. Consonant with its role as a teaching and research institution, Iowa State University has a strong commitment to graduate education that, at both the master's and doctoral levels, emphasizes the development of professional, research, and scholarship skills.

As an integral part of the learning process, Iowa State University fosters the discovery and dissemination of new knowledge by supporting research, scholarship, and creative activity. The University also uses existing knowledge to address problems and issues of concern to the state of Iowa in particular, as well as to the national and global community. The University's research and scholarly endeavors are supported by public and private resources and are conducted in an environment of open scientific inquiry and academic freedom.

Extension, professional service, and continu-

ing education activities are conducted through innovative and effective outreach programs that provide the people of Iowa, and beyond, with practical knowledge and information derived from leading instructional and research efforts at Iowa State University and elsewhere. Through its outreach programs, the University stimulates and encourages progressive change.

Iowa State University enrolls academically qualified students who represent diverse age groups, socio-economic levels, racial ancestries, ethnic heritages, and international cultures, and who provide a gender balance. Through the use of a variety of educational opportunities, advanced instructional technologies, and student services, the University supports the development of both traditional and non-traditional students, preparing them for citizenship and lifelong learning in a rapidly changing world.

Finally, Iowa State University participates in international efforts to alleviate world hunger and poverty, to prepare students and faculty to be productive and responsible citizens of the world, and to contribute to increased cultural, educational, economic, scientific, and socio-political interchange and understanding between and among Iowans and other members of the world community.

Role and Scope Statements

Role

The role of Iowa State University is defined by the institution's status as the state of Iowa's land-grant university and by its relationship to the other institutions of higher education within Iowa.

- * Iowa State University must strive to develop and maintain instruction, research, extension, and professional service programs that fulfill the responsibilities of a major land-grant institution.
- * Iowa State University shares with the other public institutions of higher education within Iowa the joint responsibility of providing a full range

of high quality educational opportunities. Coordination among these institutions with respect to programs, clientele, and geographic areas is necessary to ensure that the priority needs of all Iowans are addressed and to avoid unnecessary duplication.

- * Iowa State has a statewide system for extension education and information dissemination.
- * Iowa State continues to be a leading higher education institution with institutional emphasis on science and technology.
- * Consistent with its historic role, Iowa State University contributes to the economic development of the state of Iowa by attracting public and private organizations seeking proximity to leading authorities in particular fields, by participating in technology transfer, and by assisting efforts to strengthen and diversify the economic base of Iowa.
- * Iowa State University assumes responsibility for helping to protect, maintain and improve Iowa's natural resources through the discovery and diffusion of knowledge and technology.

Scope

Consistent with the university's role and mission statements, the current scope of Iowa State University is described below.

Iowa State University of Science and Technology, a broad-based university with an orientation towards science and technology, has sufficient scope and depth in its instruction, research, and extension and professional service functions to enable it to continue to be a distinguished land-grant university. In addition to its undergraduate and graduate work in the physical, biological, mathematical, and social sciences, it will maintain and develop strong undergraduate programs in the arts and humanities, and will offer such master's and Ph.D. programs in this area as are

justified to meet the needs of the state of Iowa and to maintain the overall strength and desirable balance of the university as a whole.

In Iowa State University's professional programs, principal emphasis will be given to the maintenance and development of strong programs in the sciences, agriculture, engineering, veterinary medicine, design, education, business, and family and consumer sciences. Interdisciplinary programs are offered that seek to combine the perspectives and methods of more than one discipline to better address the questions and problems confronting Iowa, the nation, and the world. The international efforts of Iowa State University are to be expanded and enhanced.

Iowa State University will offer no major undergraduate or graduate programs in law, library science, human medicine, dentistry, pharmacy, nursing, hospital administration, occupational therapy, physical therapy, or speech pathology.

Future programs will be determined by the continuing assessment of existing programs and of developing needs. Programs will be curtailed or eliminated when the assessment of need and resources dictates that the resources could be better used for other programs. The university approaches the addition of new programs with considerable caution. Generally, new programs are fashioned out of existing programs in response to developing needs. But if the university is to remain vital, it must be prepared and able to develop, at appropriate times, new programs that are within its general mission and that meet the changing needs of the students and society.

Appendix B

The Establishment and Evolution of Land-Grant Universities

Land-grant institutions were established as a result of the Morrill Act of 1862, which granted public land to the states with proceeds from the sale of the land to be used:

"...to the endowment, support, and maintenance, of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Other key federal legislation associated with the development of the land-grant college concept included the Hatch Act of 1887, which provided a permanent appropriation to each state to establish an agricultural experiment station, and the Smith-Lever Act of 1914, which provided for cooperative extension work. Iowa was the first state to accept the terms of the Morrill Act, and the Iowa Agricultural College, located in Ames, opened in 1869 as the state of Iowa's land-grant college.

The unique elements of the original land-grant concept included providing access to a practical and liberal education for the working classes; conducting applied as well as basic research; and serving the people of the state through the delivery of new knowledge relevant to the solution of society's problems. Thus, from their inception, land-grant colleges have had the tripartite mission of teaching, research, and outreach (extension). As such, the land-grant colleges began as sharply differentiated from the private colleges that provided classical education to the privileged few.

The establishment of land-grant colleges represented the democratization of higher education and a national and state commitment to mass higher education. Accompanying the goal of educating the children of the working classes, the new education disregarded all distinctions of race, creed, and gender. The content of higher education was also intended to be inclusive, through the

combining of practical and technical training in the applied areas of agriculture, engineering, home economics, and veterinary medicine with a liberal education in the sciences and humanities. The commitment to service was a deeply held value of the land-grant colleges in terms of both dissemination of information to its actual users and the preparation of students for citizenship.

Over the decades from the creation of the original land-grant colleges to the present time, other institutions of higher education have emulated some of the characteristics of the land-grant universities. Through increased scholarships and publicly provided financial aid, access has been expanded, not only to all public institutions of higher education, but even to the most expensive private universities and colleges. Furthermore, increased access to higher education was a primary motivation for the creation in many states of regional campus systems and community colleges.

As pointed out by Harold Enarson, in his 1989 paper "Revitalizing the Land-Grant Mission" (published by the Virginia Polytechnic Institute and State University), other types of public institutions of higher education have also adopted the land-grant emphasis on service:

The land-grant ethic can be said to now define much of public higher education. Like the land-grant universities which they emulate, the state universities, regional colleges, and community colleges make service to the people their motto. All recognize a special obligation to their community, their region, their state.

Over time, the private and public colleges expanded their academic programs in ways that emulated the land-grant institutions. The focus shifted from classical education to liberal education, and eventually they accepted the role of preparing people for professions and vocations. The role of science and the use of laboratories, field trips, and experimental work that characterized the land-grant institutions from their beginnings were also adopted over time by the non-land-grant colleges and universities.

Enarson notes that since World War II "a new model of a comprehensive university has emerged" which is that of the research university, and that "the land-grant universities, along with the best of the other state and private universities, have now become national research universities."

Some states, such as Illinois, Wisconsin, and Minnesota, combined the state university and the state's land-grant university in one institution. Other states, such as Iowa, Michigan, and Indiana, established state universities separate from the land-grant university. For ease of communication, land-grant universities that are not also the state university can be referred to as "pure" land-grant universities; those land-grant universities that are also the state universities can, for this purpose, be referred to as "composite" universities.

It is revealing to note that in many states that have both a land-grant and a separate state university, it has become essential in recent decades to broaden the range of programs at the land-grant university and to increase the quality of the programs that were not traditionally emphasized at the land-grant institution in order to fulfill the spirit and the letter of the land-grant mandate. Iowa pursued this broadening in the 1960s and 1970s, and other states, such as Texas, North Carolina, and Virginia, began to do so in the 1970s and are continuing this development at the present time.

Despite the growing overlap between land-grant and other universities, the land-grant universities continue to retain a distinctive character that is revealed in the kinds of students they tend to attract; the types of academic programs that receive special emphasis; the approach to learning; the emphasis upon, and integration of, basic and applied research; the application of basic knowledge to the solution of real life problems; and the delivery of information and research findings to the people who need it.

"Pure" land-grant universities continue to attract a high proportion of first-generation college students who come from lower- and middle-income families. Students who select land-grant universities also tend to be goal-oriented, placing a somewhat higher priority on profes-

sional and other career-oriented education. Despite this orientation, students at land-grant universities usually develop the desire for a broader liberal education once they are exposed to it during their undergraduate years. Thus, it is appropriate for land-grant universities to offer a range of undergraduate programs and majors, as well as a solid general education core.

Nevertheless, land-grant universities tend to offer, and place special emphasis on, programs that are not those typically offered or emphasized at other types of universities. In particular, land-grant universities today continue to be identified with programs in agriculture, engineering, home economics, and veterinary medicine, even though they offer a broader range of programs, especially at the undergraduate level, and even though the nature of these programs has changed dramatically and the programs have become more interdisciplinary than in the past. The emphasis on programs related to science and technology requires that modern high technology be featured in the programs offered at land-grant universities and that the development, application, and transfer of new technologies be major responsibilities of the land-grant universities.

The approach to learning also continues to differentiate land-grant from other universities. Land-grant universities tend to place emphasis on a "hands on" approach to learning, traditionally associated with agricultural field experiments and currently associated with more emphasis on laboratory work.

The traditional and continuing emphasis on, and integration of, basic and applied research associated with land-grant universities are consistent with, and follow naturally from, the programs that are emphasized and the approach to learning of the land-grant universities.

Land-grant universities continue to emphasize the application of basic knowledge to the solution of real-life problems, as well as the extension of the campus throughout the state to bring, on a timely basis, the latest research results to the people who need it to solve their

problems and to improve their lives. Such outreach efforts must be updated in terms of modern communications technologies and must be responsive to the changing needs of society. States turn to their land-grant universities for assistance in economic development efforts, not only through educating their students, but also through the production of knowledge and the development and transfer of new technologies that attract businesses seeking proximity to leading authorities in relevant areas.

References

References

1. Report of the Long-Range Strategic Planning Committee, November 1988.*
2. Review of Academic Programs, Report of the Academic Program Review Subcommittee of the Long-Range Strategic Planning Committee, January 1989.*
3. Letter to the Faculty from President Gordon P. Eaton and Provost Milton D. Glick, May 17, 1989.*

*Iowa State University

APPENDIX B.

THE 891 PLAN
(JACKSON, 1987)

THE OFFICE OF MINORITY STUDENT AFFAIRS

INCREASING MINORITY ENROLLMENT

THE ISU PLAN

1987 - 91

by

George A. Jackson

October, 1987

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PREFACE

In the fall of 1986, the Board of Regents established a committee on improving the recruitment of minority students at Regents universities.

The committee consisted of the following members:

Mr. Vernie Hawkins Assistant Director, Admissions Iowa State University	Dr. George Jackson Director, Minority Student Affairs Iowa State University
Ms. Noreen Hermansen Associate Director, Admissions University of Northern Iowa	Dr. Charles L. Means Assistant Vice President University of Northern Iowa
Dr. Phillip Hubbard Associate Director, Admissions University of Iowa	Dr. Paul Shang Director, Special Support Services University of Iowa

The objective of the committee was to present recommendations for increasing the enrollment and graduation of Black and minority students. The committee completed its work on December 12, 1986, with the presentation of the following recommendations:

- 1) Increase the enrollment of minority students to at least 8.5 percent in the undergraduate, graduate, and professional programs at each of the three universities by 1991.
- 2) Improve the existing programs for outreach and recruitment by utilizing the services of community agencies, as well as the professional staff in high schools and community colleges, to inform minority students about the opportunities and requirements for admission to the universities.
- 3) Make high-quality video tapes featuring students, for use by admissions staff who travel to high schools and community colleges.
- 4) Provide financial assistance to minority students at all levels, undergraduate, graduate, and professional, to meet their full assessed need.
- 5) Create a special affirmative action fund at each university to expand the number of teaching and research assistantships available to minority graduate students.
- 6) Establish a fund to enable graduate departments and the professional colleges to bring outstanding minority candidates to campus for interviews with faculty in the respective department.
- 7) Encourage and reward excellence in scholarship by offering full financial academic scholarships to twenty (20) incoming undergraduate students each year at Iowa State University, and the University of Iowa, and to ten (10) students at the University of Northern Iowa.
- 8) Institute special transition programs at each university for students whose admission credentials expose academic weaknesses in spite of a high potential for success.

- 9) Make special efforts to ensure that the content of the curriculum as well as the ethnic composition of the faculty reflect the realities of a multicultural society.
- 10) Establish a campus visitation that will bring high school minority students to each Regents university.
- 11) Make effective use of our alumni and minority student organizations in recruiting minorities.
- 12) Produce a brochure for minority students that will assist students to become better prepared for admission to a Regents institution.
- 13) Effective use of the media, television, radio and newspapers, could assist in the dissemination of educational information.

INTRODUCTION

The declining enrollment of Black and minority students in higher education is an issue of national concern. Today, almost every institution in higher education is committed to a program of affirmative action and a diverse student body. However, developing a heterogeneous pluralistic student body takes a collective effort. The identification, recruitment, admission, retention, graduation, and placement of Black and minority students begins with a well-developed plan and a strong institutional philosophy supported by clearly stated policies and procedures, goals and objectives.

The philosophy of the university and all resulting policies and procedures of the plan must be clearly defined so that the faculty and staff and all support personnel understand the commitment and the desired results. Critical to the plan is presidential leadership. The president should be the principal spokesperson and the chief implementer of the philosophy and must lead by example. Through his/her leadership, it is essential that a positive climate be developed throughout the university if the goals and objectives of the plan are to be achieved. Institutional philosophy, policies and procedures, and school climate will determine who the students will be with respect to academic preparation, financial stability, and social and cultural needs. If there are neither policies and procedures nor a climate which provides for "at risk" students then no such students should be admitted. "At risk" students are those students who are disadvantaged by educational preparation, environmental circumstances, and economic station in life (see Exhibit I). If we are to admit such students, then their admission must be accompanied by policies and procedures which provide for academic support, financial assistance, and social and cultural activities. The philosophy can't be "we do not do this for other students". Thus, specific efforts must be undertaken to build elements into the ISU/Ames community which will assist Black and minority students in developing feelings of respect, security, and acceptance. The creation of a positive campus environment will require the cooperation of all components of campus life: administration, faculty, student government, fraternities and sororities, athletic teams, campus media and alumni.

All of these groups must be brought into dialogue and consensus must be reached on the goals and objectives of the plan to increase minority enrollment, retention, and graduation. The plan should be endorsed by the Board of Regents and a statement of commitment issued. This plan includes five phases: 1) identification and recruitment; 2) financial aid and scholarships; 3) supportive services; 4) graduation and placement; and 5) research and evaluation.

IDENTIFICATION AND RECRUITMENT PROGRAM

The identification and recruitment phase of the program will be implemented by the Office of Admissions. Beginning in the fall of 1987, there will be two new staff persons assigned to that office with the primary responsibility to recruit minority students. They will visit high schools, community and junior colleges, historical Black colleges and universities, and major colleges and universities in selected cities. The geographic area will increase from Iowa State's traditional Midwest areas to include those areas in the Southeast, West, and Northeast. It is expected that the recruitment personnel will be on the road for a period of twelve weeks in the fall for the purpose of recruiting students. Their spring schedule will consist of approximately ten weeks of travel. In the fall, they will concentrate primarily on sophomores and juniors. During the summer there will be additional travel to selected high schools for the purpose of reassuring admissions. The staff person responsible for graduate recruitment will build his/her schedule around graduate and college career days with consultation and concurrence from college placement personnel. In addition, this person will visit selected high schools in the areas where colleges and universities are located. Their responsibility will also include college night activities, scholarship receptions, and college information days.

We will plan, implement, and/or participate in the following outreach activities.

- | | |
|------------------------------|--|
| -high school visits by staff | -mailings to students |
| -student visits to campus | -telephone contacts |
| -school personnel visits | -advertising: public radio
local & high school newspapers |
| -college nights | -promotional audiovisual products |
| -college fairs | -display booths, etc. |
| -visits to central locations | |

In addition to the aforementioned, we will hold receptions in selected cities for national achievement semi-finalists and commended students who have expressed an interest in Iowa State University: Chicago, Detroit, Baltimore, Atlanta, Kansas City and Memphis.

Additional recruitment efforts will include the following functions:

- A. Working with two-year community colleges in the area to encourage promising Associate of Arts degree recipients to continue their education at Iowa State University. Special arrangements for the recruitment, admission, and financial support of such candidates may be required.
- B. The university will establish joint degree programs with selected colleges with significant numbers of Black and minority students (i.e., historically Black colleges, predominantly Native American and Hispanic colleges).
- C. The university will continue its program of using interested alumni from the various departments and schools to aid in the recruitment of Black and minority students. This program should include providing the alumni with appropriate materials to distribute to prospective students and workshops on how to recruit students.

FINANCIAL AID AND SCHOLARSHIP PROGRAM

It is imperative that the university develop a sound financial aid, scholarship and grant program. Developing a long-term financial aid commitment with built-in options and flexible packaging for minority students will benefit both the students and the institution. It is recommended that this commitment be marketed in recruitment materials. As minority students begin to experience that the institution is willing to support them from their freshman year through graduation, a positive signal will be communicated. Such a signal will be an important image builder and will result in improved Black and minority recruitment each year.

Methods:

- 1) Incentive packages - When packaging for minority students, outright scholarship assistance with a minimum of loans and work-study is most

desired. While a job is an important factor with respect to retention, it should be on-campus and no more than 10 hours per week. All packaging for minority students should be done with the consultation and concurrence of the Office of Minority Student Affairs or with the Director's designee. Note the following:

- Students' expected summer earnings should be minimal;
- Summers should be available for students to make up deficiencies or to acquire advanced academic skills;
- A four-year debt ceiling should be established and agreed upon for minority students. This agreement should be reviewed annually with the student, a financial aid officer, and a representative from the Office of Minority Student Affairs.

2) New Monies - The ISU Achievement Foundation, with assistance from the university and the Board of Regents, must find new resources to endow scholarship funds for minority students. The emphasis should be placed on enrollment incentives, no-need scholarships, and reducing loan indebtedness of students. The fund should not be a substitute for scholarship aid already in place. Special emphasis should also be placed on the following:

- Provide competitive financial aid packages so that the university can successfully compete with their peer institutions for top students.
- Review current procedures for awarding campus-base aid and amend where necessary to assure equal access for Black and minority students.
- Sharing by the departments and colleges the funding of scholarships and fellowships for students with outstanding scholastic ability.
- In-state tuition for National Achievement COMMENDED students who are high achievers with an ACT score of 21 or greater, and in the top 10% of their high school graduating class.

SUPPORTIVE SERVICES PROGRAM

The following supportive services should be continued, renewed, and/or developed:

- 1) Visiting Scholars Program (undergraduate) - This program is designed to invite high achieving minority students to campus for the purpose of encouraging their enrollment. Ten programs (five per semester) should be provided.

- 2) Visiting Graduate Students Reception - This program is designed to invite unconditionally admitted graduate students to campus for the purpose of encouraging their enrollment, advising, and meeting college representatives. Two such receptions will be held (one per semester).
- 3) Minority Student Orientation - Prior to the commencement of classes each year, an orientation should be held with the following objectives:
- to introduce new and returning students to ISU faculty and staff;
 - to help freshmen feel comfortable about themselves and to realize that they are the heirs of a worthy heritage;
 - to assist students in understanding the academic expectations of the university and to learn very early how to meet those expectations;
 - to assist students in planning their academic and personal goals;
 - to assist students in identifying resources which can assist them with academic, social, emotional, and economic needs.
- 4) Retention Program - Minority retention must be perceived as an all university effort. Typically, the welfare and concern of minority students has been viewed as the province of the Office of Minority Student Affairs. However, if a university program of minority retention is to be successful, all segments of the university must be committed and actively involved. Thus, an all university minority retention program should be developed. Such a program should be housed in the Office of the Provost. He/she should have the authority to provide the student services in tune with student needs, hire minority faculty and staff, reform teaching and the curriculum, and develop an institutional environment in which all students, regardless of background, have an opportunity to flourish.

Method:

In support of student retention, each academic department will identify a person who will coordinate the departments' and/or colleges' retention efforts. This person will work

closely with Minority Student Affairs (the Coordinator of the Freshmen Mentoring Program). The objective of this cooperative venture will be to achieve the following functions:

- All minority students identified and registered with the Office of Minority Student Affairs.
- An early evaluation of students' strengths and limitations.
- An early identification of "at risk" students.
- The assignment of "at risk" students to the SEP Program (see figure 1), thereby ensuring a positive transition from high school to college.
- The development of a tutorial program involving faculty members, thereby ensuring that tutorial assistance is directly related to the expectations of classroom instructors.
- Early and preventive intensive counseling and academic advising.
- Early course selection and class placement (priority scheduling).
- High quality teaching by instructors who understand learning styles and can vary their teaching styles.
- Participation in a faculty mentor program that pairs Black and minority students with interested faculty members with whom they can communicate.

5) Counseling Program - In view of the inordinate social, psychological, and often academic pressures that Black and minority students encounter in predominantly white institutions, there is a critical need for counseling services. Thus, it is important that there be trained Black and minority counselors available to assist with academic and social issues. They should have the kind of sensitivity and cultural understanding that will allow them to relate to students of diverse economic, political, and cultural orientation. One of their major responsibilities will be to help students see through themselves so that they can see themselves through by doing the following:

- help students search for a positive source of reinforcement;

- help students understand that while they can not control their campus environment, they can control their personal environment;
 - help students understand that they must learn from their personal experiences in order to maximize their intellectual growth and get the most from their college experience.
- 6) Recruitment of Black and minority faculty, staff and administrators - The presence of Black and minority faculty and staff is important for minority student retention. In addition to the cultural and psychological benefits of Black and minority professionals, they also provide a support system for students and a retention mechanism for additional minority faculty. We must improve teaching and learning by enhancing diversity within the faculty ranks. Black and minority students need a support system in the class room. The first step to building a support system is high expectations and better teaching.
 - 7) National Achievement Scholarship Program - The National Achievement Scholarship Program is designed to provide tuition, room and board for those students identified as semi-finalists, finalists, and National Achievement Scholars through the National Achievement Scholarship Competition. It is recommended that we admit no fewer than twenty such scholars annually.
 - 8) Summer Enrichment Program - The Summer Enrichment Program is an eight-week intensive program for students identified as college-worthy but are not eligible for acceptance into Iowa State unconditionally.
 - 9) Graduate Minority Recruitment and Advising Program This program is designed to increase the enrollment of minority graduate students at Iowa State University. It is recommended that no fewer than 300 students be admitted and supported by this program in cooperation with the 64 colleges and departments. It should be noted that the program should not become the only pathway for minorities into graduate higher education at Iowa State University. This responsibility is to be shared

with the graduate college and each department. All minority graduate students in good academic standing should be supported in total by their department not later than the second year of enrollment.

GRADUATION AND PLACEMENT

Every attempt should be made to create a situation where Black and minority students can make a smooth transition from college into the world of work, thereby leaving Iowa State University with a "good feeling" about their stay here. Steps to insure this must include:

- 1) Assist students with the development of a career goal, career plan for achieving that goal, how to conduct a self analysis, how to compose and write a letter of application, how to interview and what to do when they meet with racism and sexism while seeking employment.
- 2) Additionally, someone must be assigned to work with industry, state departments of education, government officials and internship programs there-by increasing their understanding and sensitivity with respect to prospective minority employees.
- 3) Further responsibilities may include cataloging positions, setting up interviews, arranging plant trips and helping students find financial support for job exploration.

RESEARCH AND EVALUATION

To insure that progress is being made and commitments kept, a research and evaluation procedure should be established. It might be the province of the Office of Institutional Research or an all university committee on affirmative action and diversity. Regardless of where it is housed, its charge should be to evaluate policies, procedures and results, and make recommendations for improvement in keeping with the Board of Regents mandate.

EXHIBIT I

PROFILE OF "AT RISK" STUDENT

College: Engineering

Jones, Use
Route 66
USA, NY 20249

Phone Number (000) 000-0000

Soc. Sec. No 999-99-9999

High School Any School Street Any Street

City Any City State Any State Zip 11111

Student has been: Admitted x 1985
Fall Spring Summer

Status (Admitted) Freshman x Transfer

High School Rank 340/653 (53 %-ile) TOEFL Score

ACT 10 10 12 15 12 SAT /
Eng Math S.Science Nat. Science Composite Verbal/ Math

(Grade F F F F F)

English Math Natural Science Foreign

Lnge.

C.P. Engl AlgI D, D Biol B, B Span

C, D, C, B GE D, C Chem Frnch

B, D Alg II Phys Germ

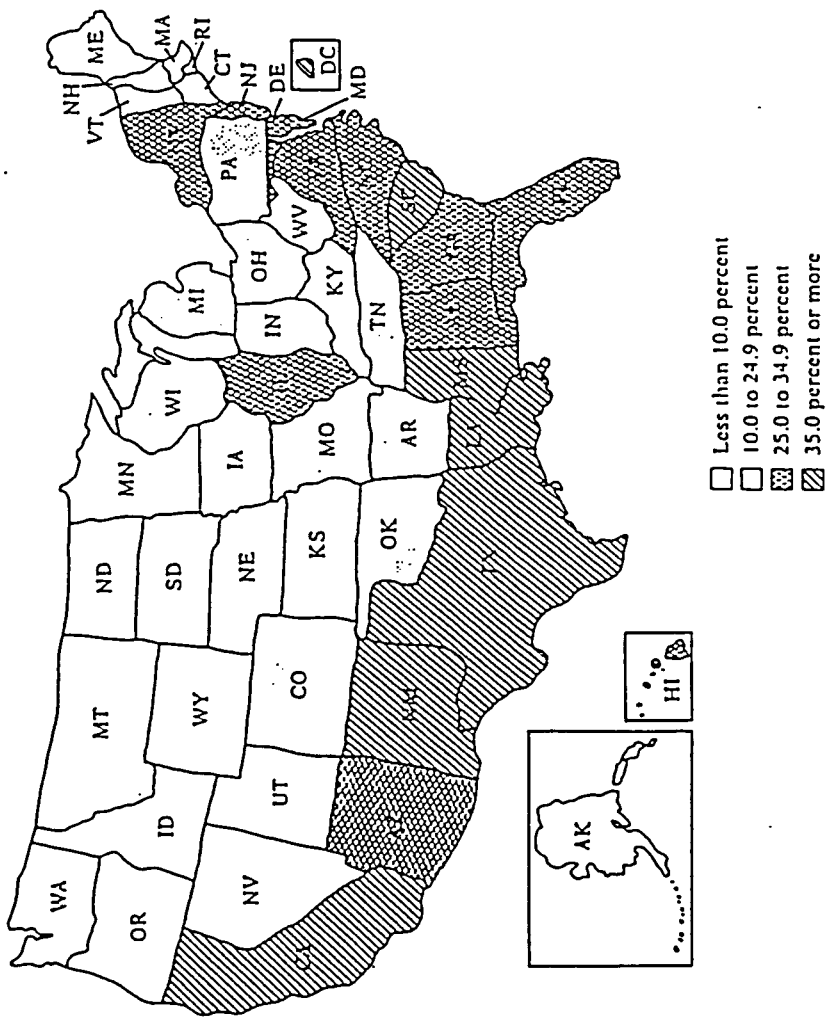
 Trig Latn

 Calc
(2.00 GPA) (1.25 GPA) (3.00 GPA) (CUM. GPA 1.91)

REMARKS: V.S.P. NAT/ACH. SEMI-FINALIST NAT/ACH. COMMENDED

- First Generation
- Non-College Preparatory
- High Financial Need
- No Family Financial Support
- Good Leadership Skills
- Extracurricular Activities

Exhibit 2
Minority Enrollment as Percent of Public
Elementary/Secondary School Enrollment,
by State



Percent minority enrollment in public elementary secondary schools was generally greatest in the Southern States and Southwestern States and in California. The percent black enrollment was highest in the Southern States while the percent Hispanic enrollment was highest in New Mexico, Texas, California, and Arizona.
 (The Condition of Education, 1984 edition. A Statistical Report by the National Center for Education Statistics.)

EXHIBIT 3

FALL SEMESTER 1987
 MINORITY GROUP STUDENTS
 ENROLLED IN IOWA STATE UNIVERSITY

	U.S. Citizens		Immigrants and Refugees		Totals	
	Iowa Residents 1986	Non-Iowa Residents 1986	1987	1987	1986	1987
American Indian or Alaskan Native	19	21	4	4	-	23
Black	134	134	442	392	10	586
Asian or Pacific Islander	108	116	75	78	159	142
Hispanic	61	66	136	123	18	17
TOTALS	322	337	657	597	187	165
					1166	1099

Permanent Copy
 Office of the Registrar
 September 17, 1987
 MIN0014

(SEE OTHER SIDE)

WHAT IS NEEDED TO ACHIEVE 8.5 PERCENT

1,099 minority = 4.3% of 25,707 (total enrollment)

Percent of minority (1,099)

2.3%	American Indian or Alaskan Native
48.4%	Black
30.6%	Asian or Pacific Islander
<u>18.7%</u>	Hispanic
100.0%	

2,185 = 8.5% of 25,707 (total enrollment)

Using same percentages

2.3% of 2,185 =	50	American Indian or Alaskan Native
48.4% of 2,185 =	1,057	Black
30.6% of 2,185 =	669	Asian or Pacific Islander
18.7% of 2,185 =	<u>409</u>	Hispanic
	2,185	

Office of the Registrar
October 7, 1987

EXHIBIT 4

First-time full-time students should meet the following sliding admissions scale:

<u>Minimum High School GPA*</u>	<u>Minimum ACT/SAT Score</u>
2.0	24/1050
2.1	23/1020
2.2	22/990
2.3	21/960
2.4	20/930
2.5	19/900
2.6	19/890
2.7	18/880
2.8	18/870
2.9 and above	18/860

*In computing the high school grade point average (academic courses only) for purposes of admission, the university assigns additional weight to grades in Honors and Advanced Placement.

Students who do not meet this criteria but are college-worthy must attend the Summer Enrichment Program if they desire to attend Iowa State.

EXHIBIT 5

BUDGET

The following funds should be authorized and appropriated by the state legislature and the Board of Regents in support of the plan to increase minority enrollment:

- 1) PERSONNEL
Three full-time professionals with clerical assistance \$100,000

- 2) SUPPORTIVE SERVICES (Current Expense)
A current expense budget should be developed to cover the cost of travel, hotel accommodations, car rental, publications, audiovisual productions, brochures and pamphlets. \$110,000

- 3) PROGRAMMING

Visiting Scholars Program	\$ 20,000
Graduate Student Receptions	\$ 10,000
Summer Enrichment Program (100 students)	\$100,000
National Achievement Scholarship Program (50 students)	\$250,000

- 4) FINANCIAL ASSISTANCE
A program of financial assistance should be developed to support new and returning students. The program should emphasize the use of scholarships and grants. \$1,000,000

I recommend an appropriation of \$1.5 million with approximately 50% of that amount going towards direct assistance to students in the form of scholarships, grants and aid.

APPENDIX C.

IMPROVING ACCESS, CHOICE, PERSISTENCE AND GRADUATION

(JACKSON, 1993)

Improving Access, Choice, Persistence and Graduation

By

George A. Jackson, Ph.D.

**Iowa State University
Ames, Iowa**

February 2, 1993

Introduction

Statement of Philosophy

In 1987, Iowa State University developed the 891 Plan in response to the Board of Regents mandate of 8.5% minority enrollment by 1991. The plan opened with the following statement endorsed by President Gordon Eaton.

"The declining enrollment of minority students in higher education is an issue of national concern. Today, almost every institution in higher education is committed to a program of affirmative action and a diverse student body. However, developing a heterogeneous, pluralistic student body takes a collective effort. The identification, recruitment, admission, retention, graduation, and placement of minority students begins with a well-developed plan and a strong institutional philosophy supported by clearly stated policies and procedures, goals and objectives.

The philosophy of the University and all resulting policies and procedures of the plan must be clearly defined so that the faculty and staff and all support personnel understand the commitment and the desired results. Critical to the plan is **presidential leadership**. The president should be the principal spokesperson and the chief implementer of the philosophy and must lead by example. Through his/her leadership, it is essential that a positive climate be developed throughout the university if the goals and objectives of the plan are to be achieved. Institutional philosophy, policies and procedures, and school climate will determine who the students will be with respect to academic preparation, financial stability, social and cultural needs. If there are neither policies and procedures nor a climate that provides for "at risk" students then no such students should be admitted. "At risk" students are those students who are disadvantaged by educational preparation, environmental circumstances, and economic station in life. If we are to admit minority students, then their admission must be accompanied by policies and procedures that provide for academic support, financial assistance, and social and cultural activities. The philosophy cannot be "we do not do this for other students...". Specific efforts must be undertaken to build elements into the ISU/Ames community that will assist minority students in developing feelings of security, respect, acceptance and self worth. The creation of a positive campus environment will require the cooperation of all components of campus life: administration, faculty, student government, fraternities and sororities, athletic teams, campus media and alumni. All of these groups must be brought into dialogue and consensus must be reached on the goals and objectives of the plan to increase minority enrollment, retention, and graduation."

Since the development of the 891 Plan, Iowa State University has experienced moderate growth within its minority student population. Much, however, still remains to be accomplished.

Access vs. Quality: The Debate

Continuing efforts to increase diversity at ISU have met with the implicit belief of many administrators and faculty members that providing access to more African American, Hispanic American and Native American students will lower academic quality. Supporting this point of view have been discussions to raise admission standards as an initiative for improving quality. The opposing perspective points out that the achievement of quality at ISU must include the full participation of ethnic minorities. Iowa State University, attempting to respond to this second viewpoint, has been increasingly concerned during the past two years through the Committee on Diversity with redefining traditional standards of quality to accommodate diversity. For many ISU officials, the questions still remaining are: 1. How does an institution achieve diversity with limited resources? 2. What kinds of goals should a state university establish with respect to diversity? 3. What is the role of ISU in the Regents' efforts to achieve diversity? 4. How should progress toward the attainment of diversity be measured? and 5. What are the policy (legal) questions which curtail equality of educational opportunity and distributive justice?

Without answers to these questions, the debate between quality and access continues at ISU with no agreement with respect to who is responsible for expanding ethnic diversity and strengthening ethnic achievement. In short, ISU is in the second of three stages important to access, choice and persistence: A) In the first stage, barriers to admission were reduced leading to increased enrollment and higher attrition rates for minority students. B) Now, in the second stage, we are developing strategic interventions which will improve student retention by helping minority students cope with the teaching and learning environment that requires a level of preparation they do not have. However, completion rates remain low in the absence of faculty commitment to translate retention into graduation. C) If and when we reach the third stage, faculty will become more involved in helping minority students achieve academic success in all majors thereby increasing access, choice, persistence and graduation. However, until the debate is ended, retention and graduation rates will remain low.

Improving Retention

This report on minority retention was requested by the Board of Regents in a memorandum dated October 29, 1992, from Roger Maxwell. The report will provide the following information with respect to access, choice and persistence for minority students at Iowa State University since the 891 Plan.

1. A statement of the problem
2. Programs and services offered by the University for minority students
3. An action plan
4. Recommendations
5. Conclusions

The Problem

Iowa State University's minority population has grown from 1.3% in 1971 to 6% in Fall, 1992 (see Appendix A). While this is tremendous growth, the retention rate of minority students remains approximately 20 percentage points below majority students. As educators and researchers, we know students enter college with varying goals, commitments, and capacities. That means that not all students will graduate at equivalent rates. Furthermore, when minority students discontinue their studies at Iowa State University, it does not mean that they permanently relinquish their goal of a college degree. Many students "stop-out," take a job, work a semester, return, and later graduate. Some students take as many as ten years to graduate. However, ethnic differences in retention and graduation rates do exist for Iowa State University students and this is a concern. Several reasons contribute to this difference in persistence and graduation rates. As an example, we have discovered that the association between ethnicity and college attrition is somewhat reduced when controlled for socio-economic status and academic history. The question then becomes "Do ISU minority students face special barriers when seeking a college education?" If we use the criteria of the last ten years, then the answer appears to be "yes." The latest research published on ISU students concluded that barriers for minority students are in many ways similar to those listed for all students:

1. A lack of financial support.
2. A lack of course preparation for a college curriculum in math and science.
3. Inadequate advising about academic and career choices.
4. Low and unrealistic educational aspirations.
5. A lack of faculty and staff involvement.
6. Low expectations from faculty and staff members.
7. Large, impersonal classes during the first year of study.

Unfortunately, for too many Iowa State University minority students, these barriers are intensified in three ways:

1. Many college worthy minority students enter ISU with not just one, but several of these barriers, any one of which alone would be more than enough to lower their chances of being successful without an on-going educational, financial and social support system(s).
2. Seventy-three percent of the minority students enrolled spend more than fifty percent of their time worrying about money. A similar percentage takes one or more part time jobs to make ends meet -- time that is needed for study.
3. Additional problems faced by minority students include, but are not limited to, racial isolation or discrimination, a lack of student peers, language barriers, too few minority faculty or staff to serve as role models, and a lack of understanding among majority and minority staff of these special problems.

Because of these conditions, approximately 60% of minority students who enter Iowa State University will leave without their degree after five years.

Programs and Services

The leadership of Iowa State University does not take lightly the aforementioned problems of minority students; nor do they take lightly the extremely low graduation rate. To this end, the University offers the following programs and services specifically designed to enhance minority student participation. The Office of Minority Student Affairs, instituted in 1974, is designed to give leadership to the University's mission in the area of equal educational opportunity and distributive justice. To achieve this mission, Minority Student Affairs has established and maintained productive on-going working relationships with credit delivering and non-credit delivering departments within the University. These relationships are vital to the enrollment, retention, and graduation of minority students.

Academic, Financial and Cultural Assistance Programs

Identification and Recruitment Program is a cooperative venture between Admissions, the eight colleges, and Minority Student Affairs. The program provides for the following activities:

- High school visits by staff
- High school student campus visits -- "Experience ISU"
- High school counselor campus visits
- College nights and college fairs
- Visits by staff to central locations in the community
- Mailings to high school students
- Telephone contacts -- "STARS"
- Advertising (public radio, local and high school newspapers)
- Promotional audiovisual products
- Display booths

Minority Student Affairs Orientation is held annually to acquaint minority students and their parents with the academic, financial and cultural opportunities for minorities at Iowa State University.

Summer Enrichment Program is a six week, on-campus summer session for incoming minority freshmen; begun in the 1970's to assist students in making necessary academic and cultural adjustments; 2 credit-producing courses (math and English) are offered, with attendance at class and study sessions mandatory; students receive academic, personal, and career guidance from program staff, faculty, academic advisors, and the university's career counseling office -- including assistance in selecting the coming fall's courses; 90% of the enrollees return in the fall to begin their freshman year.

Mentoring Program offers freshman students a one-to-one relationship with faculty mentors; provides students an outlet for discussing problems and opportunities in the academic environment.

Minority Liaison Officers are graduate faculty who have agreed to work cooperatively to assist minority students in making the transition from undergraduate to graduate study.

The Martin Luther King Jr. Loan Program provides education-related loans to minority students at ISU.

Disadvantaged Student Fund provides assistance for student employment opportunities and social and cultural activities.

Educational Recovery Program is an initiative in the College of Liberal Arts and Sciences to provide academic counseling to minority students whose academic performance is inadequate.

Symposium for Minority Students: Leadership Retreat is sponsored by student organizations to promote cultural awareness and address concerns of minority members (e.g., Black History Month, Hispanic Symposium); the retreats for minority student organization leaders offer opportunities to interact with university administrators.

Black Cultural Center is a nonprofit organization providing cultural, social, and religious opportunities.

Images Program provides financial assistance for in-state students.

George Washington Carver Scholarship Program finalists, semi-finalists and commended students in the national Achievement Scholars program, and in the National Hispanic Scholars program are eligible for George Washington Carver scholarships at ISU. The scholarships range from tuition only, to tuition, room and board, books and supplies.

The Graduate Minority Assistantship Program has been used successfully to attract minority graduate students. The approximately 200 students currently enrolled receive academic advising and financial assistance through the program. A majority of the participants have come from historically black colleges.

Minorities in Engineering Program is designed to encourage minority participation through financial assistance, tutoring, counseling, and academic advising.

New Directions for Life & Science Education is a biological science program with research experiences for minority students and women.

NASA Grant Program is designed to increase the number of Black, Hispanic, Native American and Pacific Islander minority students and students with disabilities who are traditionally underrepresented in the science and engineering career fields.

American Indian Scholarship Program is designed to provide help for needs not covered by Financial Aid.

Minority Student Athletic Assistance Program provides students with counseling, advising and personal support through group seminars under the direction of a professional counselor.

Residential Minority Programs in the Department of Residence coordinates the services offered to ethnic minority students within Residence, with an emphasis on advocacy, referrals, outreach and retention of students.

Student Support Services is a federally funded program that provides academic, cultural, and financial assistance to low income, first generation and disabled students. While this program is not funded specifically for minority students, it does service approximately 267 such students.

Minority Student Affairs Recognition Weekend provides an opportunity for minority students to receive recognition for academic achievement, leadership and community service. They are also afforded the opportunity to meet students, faculty, staff and alumni at receptions and functions sponsored during this weekend.

Pre-College Programs

College Bound Program is designed to increase the pool of minority students who will be college-ready upon completion of high school. The College Bound Program is state funded and currently sponsors the following projects: The Minority Leaders Project, the Minority Quiz Bowl, the Native American Art Project, the Best of Iowa Future Scholars Program, the Future Teachers Program, and the Iowa Visiting Scholars Program.

Upward Bound and Talent Search are both federally funded programs and not specifically designed for minority students. At the present, Upward Bound serves 12 minority students, and Talent Search, 107 students. These programs are designed to provide information and services germane to college entry and successful completion.

Minority High School Research Apprenticeship Program in Biomedical Sciences is an NIH funded program designed to interest minority students in scientific research. Students spend six weeks in a research lab under the supervision of an ISU faculty member.

All of these programs are designed to instill a belief in the value of higher education, encourage higher levels of participation, and strengthen preparation so that more minorities will have the opportunity to succeed in post-secondary education.

Action Plan

As stated in Iowa State University's Strategic Plan (1991), we realize that to experience true success in student retention we must improve all of undergraduate education. Specifically, we must remove barriers which limit choice and persistence for minority students. To accomplish

this, we are proposing the following initiatives. Some of these initiatives will be developed into student, faculty and staff programs. Others will require extensive consideration, consultation and financial support before implementation.

1. Change Attitudes and Behaviors To reach a minority student enrollment of 8.5%, we must retain between 70 and 80 percent of the minority students who enter Iowa State University. To accomplish this, each department and college will be asked to commit itself to an educational program designed to help ensure the retention and graduation of minority students (see Appendix B). These will not be "paper programs," nor will they be remediation programs designed to merely help minority students avoid failure. They will be programs which involve the faculty and staff with the students and will be designed to help minority students excel. These programs will impact university policy from admission through graduation and placement.
2. Targeted Recruitment, Selection and Admissions We cannot be all things to all students. Thus, we will be very selective with respect to whom we recruit and admit. Ethically, the recruitment of low-income and disadvantaged students should be done only when it is fully recognized that some students, although college worthy, will need an educational, financial, and cultural support system if they are to have a true chance to be successful. If we do not have such support systems in place, and no plans to develop such systems, students who need this type of support will no longer be recruited if we are to improve graduation rates. As a land-grant college, it is not our intent to limit options, but to increase success.
3. Improve financial assistance A lack of financial assistance is the number one barrier for 65% of minority students at Iowa State University. Far too many minority students enter ISU without the financial assistance they need to matriculate. Our very best financial aid package leaves a full need minority student short of that need. Additionally, far too many minority students are assigned work/study jobs where they have little opportunity to earn the full work/study allocations. This problem is compounded when the student must take out additional loans to meet college costs. If we do not correct this situation, many low income and disadvantaged students will leave ISU in debt and without a degree. Moreover, this indebtedness will prevent them from transferring to another institution. For those students, it is truly a "Catch 22" -- no degree, huge indebtedness, no ability to pay and no opportunity to transfer. We will move quickly to ensure that this situation is eliminated by seeking additional financial assistance through fundraising, grants and contracts, and state appropriations.
4. Increase Black and minority faculty and staff The absence of role models, nurturing and mentoring is an ongoing problem faced by minority students. Having minority faculty and staff in visible leadership positions is positively related to access, choice, persistence and graduation. As of September 30, ISU employed 21 Black, 94 Asian, 2 Native American and 15 Hispanic American faculty members. They further employed 35 Black, 50 Asian, 9 Hispanic and 3 Native American staff members. We will eliminate this practice of tokenism by hiring additional concerned faculty and staff.

5. Develop programs for minority student leadership We will increase the opportunity for minority leadership by encouraging minority students to seek nontraditional positions of responsibility and leadership and will support them once elected and/or appointed.
6. Improve academic advising If graduation rates for minority students are to improve, Intrusive Academic Advising (IAA) must become the rule rather than the exception. IAA is a process which combines academic advising with counseling and teaching. The objective is to help students maximize their talents and minimize their limitations. The process is designed to develop and/or reinforce in each advisee self-confidence, positive self-esteem, and realistic goals and objectives. It requires that the academic adviser get to know his or her advisee; recommend a thorough evaluation of the student's academic background; recommend specific instructors; suggest a reduced course load in the first semester; set checkpoints for evaluation of progress; and follow up with individual instructors.
7. Improve teaching and learning Nothing will improve minority student retention more quickly than better undergraduate teaching and learning. What happens to minority students in the classroom has a major impact on minority student retention and graduation rates. Improving undergraduate education will require changes in teaching strategies as well as changes in the classroom climate. What happens to the minority student in the classroom must be reinforced through curriculum changes. For example, it is essential to include course content which does not demean minorities or deny their existence. Teachers who do not allow minority students to write on minority issues or who devalue their work for doing so are hindering the teaching and learning process, and in some cases may destroy a student's self-confidence. If teaching and learning are to change, in-service training for those instructors who hold age old beliefs such as "Blacks are innately inferior to whites" may be required.

Recommendations and Conclusions

Provide bold leadership If the proposed action plan listed above is to have a chance of success, leadership must be bold, visible and result-oriented. Leadership must begin with the Board of Regents, with delegation of authority to the President of the University. The President must become the principal on-campus spokesperson for diversity (see Appendix C) and the chief implementer of the plan to improve retention and graduation for minority students. Thus, he or she becomes the leader in convincing other university administrators and faculty members that the University truly welcomes minority students, faculty and staff as equal partners and colleagues.

Any initiative taken by Iowa State University will require total effort from students, faculty, staff and administrators.

- It will mean better advising, counseling, and teaching for college-worthy minority students provided by the most knowledgeable faculty.
- It will mean new educational programs of financial aid and scholarship help to bring opportunities within reach of those minority students who need help most.

- It will require constant feedback from faculty and staff about the levels of responsibility and commitment minority students will need to make to be successful.
- It will require intense motivation, better preparation, determination, follow up and follow through from minority students who enter Iowa State University (see Appendix D).

Whatever it takes, we must do. Now, more than ever, we simply cannot afford to allow college-worthy minority students to go underdeveloped after working so hard to motivate their interest in higher education at Iowa State University. What we propose can all be achieved without the lowering of standards; but we must increase efforts. Quality need not be conceived of as finite or intrinsic. It can be seeded, nurtured and developed. We need to stop wishing for, or working for different students and instead start doing better with those we have. Finally, an institution such as Iowa State University which has endured so long, needs to stop feeling threatened by the prospect of change.

APPENDIX A

MINORITY* STUDENT ENROLLMENT COMPARISON
Iowa State University

	American Indian or <u>Alaskan Native</u>	<u>Black</u>	Asian or <u>Pacific Islander</u>	<u>Hispanic</u>	<u>Total</u>	<u>% Minority</u>
1971	12	158	58	19	247	1.3%
1972	10	170	69	16	265	1.4%
1973	10	200	57	22	289	1.5%
1974	16	265	78	27	386	1.9%
1975	24	249	85	31	389	1.8%
1976	19	245	98	35	397	1.8%
1977	24	304	117	35	480	2.1%
1978	18	292	140	50	500	2.2%
1979	18	326	154	81	579	2.5%
1980	24	381	166	98	669	2.8%
1981 **	17	404	157	149	727	3.0%
1982	30	475	201	200	906	3.6%
1983	35	645	251	198	1129	4.3%
1984	25	587	288	197	1097	4.2%
1985	20	570	326	205	1121	4.2%
1986	23	586	342	215	1166	4.4%
1987	25	532	336	206	1099	4.3%
1988	27	567	349	233	1176	4.6%
1989	30	640	353	270	1293	5.1%
1990	29	587	372	259	1247	4.9%
1991	34	593	394	300	1321	5.2%
1992	35	708	435	326	1504	6.0%

*Includes U.S. Citizens, Immigrants, and Refugees only.

**Beginning of the semester system

Permanent Copy
Office of the Registrar

f:\minority\compare

APPENDIX B

**THE MINORITY RETENTION AND GRADUATION PROGRAM
POSITION DESCRIPTION**

PROGRAM:

The Minority Retention and Graduation Program is a cooperative venture between Iowa State University's Division of Student Affairs and the Office of the Provost.

PURPOSE:

To assist minority students in making a successful transition from secondary education to post-secondary education by: a) increasing faculty, staff and minority student involvement, b) reducing barriers to participation, c) helping minority students meet high expectations, and d) improving the learning environment.

POSITION:

Minority Liaison Coordinator

BASIC FUNCTION:

The Minority Liaison Coordinator will provide leadership in the development, implementation and coordination of educational, cultural and social activities for minority students enrolled in the College of Liberal Arts and Sciences. The coordinator will work with students, faculty and staff members to create a college environment more conducive for successful minority enrollment, retention, graduation and placement. This individual will coordinate all such activities and functions with consultation and concurrence from the Dean of the College of Liberal Arts and Sciences and the Office of Minority Student Affairs.

DUTIES AND RESPONSIBILITIES:

1. Identify all minority students in the College of Liberal Arts and Sciences.
2. Hold high expectations for minority students and communicate same to all members of the College of Liberal Arts and Sciences.
3. Establish a genuine, open relationship with minority students.
4. Develop a Personal Assessment Profile of each student's academic, social and cultural experiences.
5. During the first year of enrollment, work with the students' advisers and teachers to formulate a course of study that maximizes the talents of minority students and minimizes their limitations, thus enhancing the successful completion of the first year.

6. Encourage minority students to consider a course of study in depth and to explore all options fully before making a career choice.
7. Assist teachers and advisers in discovering the positive qualities of minority students and encouraging them to help such students develop their qualities.
8. Through group sessions, encourage minority students to maximize their individual abilities.
9. Take preventative action when possible thereby eliminating the need for punitive action.
10. Help minority students recognize their own responsibilities for achieving their goals and needs.
11. Counsel minority students who are on work/study. Assist them in adjusting to their work responsibilities without neglecting their studies.
12. As a Minority Liaison Coordinator, convey a belief in the abilities of minority students enabling them to feel independent, productive and full of self worth.
13. Provide guidance and counseling services to minority students who are at risk of dropping out before they make the decision not to return to school.
14. Through seminar sessions, attempt to understand what it means to a minority student to fail their first semester.
15. Challenge minority students without destroying their initiative.
16. Follow up on the progress of successful and unsuccessful minority students by working through their academic advisers and instructors.
17. Assist minority students in dealing with stress.
18. Become knowledgeable about scholarships and loans for minority students.
19. Develop a data base of instructors and teachers who can best maximize the talents of minority students.
20. Monitor student progress.

INTERACT WITH THE FOLLOWING COMMITTEES:

1. College Academic Standards Committees
2. Financial Aid Committee
3. Orientation Committee
4. Admissions Committee

5. All University Placement Committees
6. The Summer Enrichment Program (SEP) Committee
7. The Social and Cultural Committee of Minority Student Affairs

RELATIONSHIPS:

The Minority Liaison Coordinator should maintain the following on-going relationships for the purpose of expanding supportive services for minority students:

1. Deans, directors and department heads
2. Academic faculty and staff
3. Student leaders and student organizations
4. Parents
5. Community and community organizations

All of the above relationships should be developed and nurtured for the purpose of promoting effective communication which is necessary and desirable for the successful accomplishment of the goals and objectives of this position.

MEASUREMENT OF PERFORMANCE:

The performance of the Minority Liaison Coordinator will be measured by the degree of involvement this person demonstrates while performing the outlined duties and responsibilities. The Dean of the College and the Assistant Vice President for Student Affairs and Academic Affairs will review the effectiveness of the performance of the coordinator through continual informal consultation as well as through formal, yearly performance appraisals.

NOTE: This is not a program of remediation -- no standards are to be lowered; but all efforts are to be increased.

APPENDIX C

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Office of the President
117 Beardshear Hall
Ames, Iowa 50011-2020
515 294-2042

December 4, 1992

To Members of the University Community:

I wish to share with you my response to the Steering Committee on Diversity's report, A Plan for Creating a Multicultural and Diverse Environment at Iowa State University. I am particularly grateful to the Steering Committee for its hard work, commitment, and leadership in developing this plan. Dean Nancy L. Eaton, who chaired the Steering Committee during the development of the plan, deserves our special thanks for her substantial contributions to this effort.

Endorsement

The Steering Committee's report provides an excellent beginning for a university-wide approach to enhancing diversity and multiculturalism at Iowa State. I am pleased to endorse the plan that has been developed. The emphases in the plan on recruitment, retention, curriculum and climate are well-founded. We already have made a substantial commitment to the plan this academic year with the investment of one-half million dollars in new or expanded efforts to enhance diversity at Iowa State. The plan's attention to accountability will help ensure successful implementation. While progress will depend in part on the availability of additional financial resources and will vary from unit to unit because of differing circumstances, each unit of the University has the opportunity to enhance diversity and multiculturalism within its existing resource base. Progress is possible, and progress is expected.

There is broad support within our community for efforts to increase diversity at Iowa State University. The report of the Committee was thoroughly and thoughtfully read by students, faculty and staff, a number of whom submitted formal comments to me. These comments were almost uniformly supportive of the University's efforts to increase diversity in our community. The concern and commitment to diversity is also reflected in the range of the comments received. For example, one person encouraged the University to be more thoughtful in the use of language, finding fault in the use of terms such as "dominant culture" to describe Western European-derived culture, and the term "subpopulation" to refer to ethnic or cultural minorities.

Values

It is the goal of this University to create a rich, culturally diverse educational community, in which all persons are treated with respect and honesty, where different cultures and ethnicities are valued for their perspectives, and where individuals are valued for the contributions they make to our community. Increasing diversity is a priority of the University and is an essential

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December 4, 1992

part of our Strategic Plan. It is the policy of the University and its governing Board of Regents that we increase the diversity of the University. The goals that have been set, for example, to have 8.5% minority representation in our student body, have not been achieved.

It is important that Iowa State University address the issue of diversity now. We have only to look around the world at Bosnia, Somalia, Los Angeles and elsewhere to see that the violence associated with racial and ethnic divisions is growing. Acts of racial violence in the United States, on predominantly white campuses, are making race relations an important issue for university communities, including the Iowa State University community.

We must deal more forthrightly with the issues of diversity and multiculturalism, not only because our goals for increased diversity are unrealized, but because it is central to our aspiration to be the nation's best land grant university. As a land grant university, we are committed to access for all citizens who can benefit from our educational programs. As a public institution, we must better reflect the pluralistic society that sustains us. As an important institution of our American democracy, we share the responsibility of fulfilling the promise of democracy to all citizens. By all that we, as educated Americans, value, enhancing educational opportunities for members of underrepresented groups at Iowa State is the right thing to do.

Perhaps the most important reason we should commit ourselves to greater progress on diversity is because we are an educational community. We have a special obligation to educate our students well for the increasingly diverse and multicultural society in which they will live. As a land grant university, we seek to provide our students with both a practical and a liberal education, and with educational programs that embrace the intellectual richness of our world. Our educational goals require a diversity of ideas and understandings that in turn, require a greater diversity of people--in our student body, in our faculty and in our staff.

In the challenge of diversity lies an even greater educational opportunity. We can, if we are successful, show ourselves and others outside the university how a community--an educational community--deals with complex and important social issues. That others are looking for guidance and understanding is unmistakable. That our university is challenged by enhancing diversity and multiculturalism also is clear. A successful approach to enhancing the environment for diversity and multiculturalism could give broader meaning to our land grant mission of service.

As we commit ourselves to this plan, let us recognize that Iowa State is already making progress on diversity and multiculturalism. The Iowa State University of today is more diverse than ever, both intellectually and

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demographically. Cross-disciplinary studies, international programs, Minority Student Affairs, the Affirmative Action Office, and many other programs are evidence of Iowa State's commitment to greater diversity and multiculturalism. The percentage of our students, faculty and staff from underrepresented groups is growing. We are among the leading universities of the United States in the numbers of students and scholars from other nations. The international community of Iowa State makes important contributions to our growing diversity and multiculturalism.

Let us also acknowledge that there is much more to do at Iowa State. We have not yet realized our goals. And the debate on the Steering Committee's report shows that there remains disagreement on how greater progress is to be achieved. There are troubling examples of intolerance, hostility and ignorance within our university community. Let us be clear that bigotry, discrimination, and harassment are antithetical to our educational work and inconsistent with our values as a university. Let us recognize that the goal of greater diversity and multiculturalism is a challenging one for our community, and that each of us bears a responsibility to contribute to progress. Let us acknowledge that most of our students and many of our faculty and staff came to Iowa State with little previous opportunity to interact with people of color or to learn, much less experience, the problems and strengths of individuals from other backgrounds. Above all, in the land grant spirit, let us go beyond acknowledging our shortcomings and get down to the practical work of making progress.

Specific Concerns

In approving the Steering Committee's plan, let me also acknowledge that the plan has raised some questions that require continued discussion and review. Indeed, continued discussion and review are essential to self-education and to real progress. In this regard, our plan must and will evolve as our understanding deepens and our circumstances shift. I have asked the Steering Committee to review the comments received and recommend any refinements in the plan before final distribution at the end of December. There are, however, a few questions that have been raised that deserve response by me at this time. These questions cut to the heart of the University's commitment and policies and, for this reason, require a careful and clear response.

A few people have expressed concern that the incorporation of diversity as part of the University's goals should not come at the expense of recruiting and retaining "people of outstanding quality." I wish to be as explicit and clear on this concern as words will allow. I reject this kind of thinking. Achieving greater diversity at Iowa State need not compromise the academic quality of our university. Indeed, pursuing greater diversity will enhance the quality of our university by expanding the pool of talented persons and enriching our understanding of ourselves and our world. I argue that we should see greater

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diversity as one measure of our growing excellence. To believe otherwise demeans all underrepresented groups. To believe otherwise encourages the racism, bigotry and discrimination that plague our society. Iowa State University must not be a party to such prejudices. Talent, ability and academic excellence are widely distributed in our society. As an academic institution committed to excellence, and as a public institution committed to service, Iowa State cannot forego the contributions of any member of our society by purposely or inadvertently limiting participation to certain groups. It is our job to ensure that Iowa State is genuinely open and accessible to all and to ensure that our university realizes the full benefits of a more diverse student body, faculty and staff.

Questions also have been raised about the possibility of "quotas" and "threats to academic freedom." While the proposed plan appropriately seeks to be aggressive, nowhere does the plan recommend quotas or suggest that academic freedom be limited. The plan does unmistakably call for a commitment to seek out, aggressively and affirmatively, members of underrepresented groups so that our university does become more diverse. It does call for policies, programs and incentives to accelerate progress. These are both reasonable and necessary. One policy step that we can take immediately is to eliminate, except as may be required by collective bargaining agreements, the occasional practice of filling positions, both new and existing, without an open search process. This practice is viewed by many members of underrepresented groups as inconsistent with our Equal Employment Opportunity commitments and limiting their chances for advancement at the University. Open searches will increase the quality and diversity of the University's faculty and staff. By means of this letter, I am instructing the Provost and Vice Presidents that no position at Iowa State can be filled without an open search process, except by the written approval of the President of the University.

There has been discussion of the means by which the University recognizes an individual's contributions to enhancing diversity and the role such contributions should play in personnel evaluations, particularly for faculty promotion and tenure. I hope it is clear that achieving greater diversity and multiculturalism is a goal of Iowa State University. Therefore, faculty and staff who contribute to this goal through their work assignments must be recognized and rewarded. To do otherwise is to make hollow the University's professed commitment. Open, regular discussion with supervisors regarding an individual's job assignments and efforts that contribute to greater diversity will do much to reduce misunderstandings when job performance evaluations and salary adjustments are made. In this regard, the additional funding provided this year to enhance diversity includes support for the training of administrative personnel to increase their effectiveness in working with a more diverse workforce.

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With respect to promotion and tenure of faculty, it is the policy of Iowa State University that individual faculty must demonstrate their suitability for promotion and tenure through meritorious contribution to the teaching, research and outreach missions of the University. The ability to contribute effectively to student learning, to scholarship and creative activity, and to the broader dissemination of knowledge must be the basis of any promotion or tenure decision. Clearly, faculty can contribute directly in many ways to our goal of greater diversity through their teaching, research, extension or professional practice, and service activities. Some faculty contributions enhance diversity, such as advising a student organization or serving on a committee, but do not easily fit the teaching, research, or extension or professional practice categories. While not a substitute for effectiveness in teaching, research, or extension or professional practice in promotion and tenure decisions, these activities must be seen as desirable, and therefore rewarded. The disproportionate service efforts made by many of our minority and female colleagues must be recognized, because it is service that the university needs and values and because the university fosters it through the assignments people receive. This problem, often the result of well-intentioned committee assignments and nominations, could be alleviated if all of us accepted responsibility for a greater share of this important service work.

Let me also offer a few comments regarding the Steering Committee's suggestions on curriculum and instruction. Faculty have expressed concern that some of the Committee's recommendations may not allow for appropriate faculty review. Historically, the faculty have had primary responsibility for the curriculum, and for good reasons. The faculty teach the curriculum. On questions of subject matter, the faculty bring special expertise because of their research and scholarship. Thus, the faculty should be best able to understand the deeper currents and broader implications of any particular curriculum structure. For these reasons, I am prepared to accept the Faculty Senate's proposal that its Council on Academic Affairs take the leadership role in curriculum development to integrate recommendations of the Plan for Creating a Multicultural and Diverse Environment at Iowa State University, the report on Educational Foundations, and the report on Internationalization of Iowa State University. However, in accepting this proposal, let us be clear that there is an expectation that meaningful progress will be made on the time schedule suggested by the Steering Committee. We must avoid the inconclusive discussions that often attend such matters, or the call for massive injections of new resources as the only means of curriculum change. We must go beyond discussion and review and begin to make progress on these broader curriculum concerns.

It is also my hope that we will attend not only to what is taught, but also to the manner in which we teach and relate to our students. The new Center for Teaching Excellence provides a useful vehicle for examining and improving the environment for learning at Iowa State. There is growing evidence that

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understanding the interaction between the social and academic environments at universities can enhance the retention and the success of all students, particularly students who are members of underrepresented groups. More careful attention to how students learn--and why they do not learn--could substantially enhance the retention of underrepresented groups, and this, in turn, will improve their recruitment.

In both accepting and endorsing the Steering Committee's report, I am hereby charging those identified in the report to begin to fulfill the responsibilities outlined therein for them. The Steering Committee is being charged to review annually the University's progress, suggest changes in the plan, and report to the President on these matters.

Two Specific Proposals

Among the many comments I have received on the Steering Committee's plan were two suggestions I can act on immediately.

The first suggestion was to develop an award that fosters greater recognition of service contributions by faculty and staff to enhancing diversity and multiculturalism at Iowa State. To this end, I am establishing the Presidential Service Award, to be given to a member of the faculty or staff whose service contributions to diversity and multiculturalism at Iowa State University have been exemplary and beyond the ordinary course of duty. This recognition, to be given annually at the Spring Convocation, will include a cash award of \$2,500 and a plaque.

The second suggestion was to begin a visiting professorship that would bring distinguished faculty from underrepresented groups to the University to expand educational opportunities for our students and to enrich the University by their presence. To this end, I am establishing the George Washington Carver Professorship. This professorship will be supported by a perpetual endowment initially funded at \$300,000. The University will seek additional funds for the endowment through its ongoing fund-raising activities. Any department of the University may nominate a candidate for the professorship. The final choice will be made by the Provost. It is intended that the first Carver Professor would come to Iowa State during the 1993-94 academic year.

Conclusion

Let me conclude by urging the University community to embrace our commitment to multiculturalism and diversity as an educational challenge. As a university, our approach to multiculturalism and diversity must be rooted in education. As a pluralistic educational community, we must celebrate both our common values--the life of the mind, honesty, mutual respect--and our diversity.

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We must see the challenge of greater diversity and multiculturalism as an opportunity to educate our students, ourselves and our larger society on issues of great importance. In adopting our educational approach, we must also remember the lessons of tolerance, civility and openness that every great teacher understands and exemplifies.

Learners make mistakes. Our job is to be tolerant and to educate. Learners don't always understand subtleties and nuances. Our job is to be civil and to expand and deepen their understanding. Learners ask difficult questions. Our job is to be open and to help them seek answers. We must confront ideas, not people.

Our commitment to academic freedom, the First Amendment to the Constitution, and our mission as a university means that no question, no idea, no proposal is unworthy of discussion or is to be censored. We must have the tolerance, the civility, and the openness to take on all ideas, even those that seem outrageous, and subject them to our best thinking. Intellectual diversity, considered debate, and the courage to confront ideas--particularly ideas that are uncivilized and closed-minded--must be hallmarks of our University. We must, if we are to make progress, recognize that tolerance, civility and openness, rooted in respect for individuals--all individuals--are essential requisites if education is to take place. If we recognize greater diversity and multiculturalism as an educational challenge, then our actions will demonstrate our respect for all persons, we will create a nurturing educational environment, and the excellence of our University will be clear to all.

Sincerely,

L

Martin C. Jischke
President

APPENDIX D.

HUMAN SUBJECTS APPROVAL FORM

Information for Review of Research Involving Human Subjects
Iowa State University
(Please type and use the attached instructions for completing this form)

1. Title of Project An Analysis of the factors which differentiate between successful and unsuccessful Afro-American students at Iowa State University.
2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for approval. I agree to request renewal of approval for any project continuing more than one year.

John D. Henderson
Typed Name of Principal Investigator

4/1
Date

[Signature]
Signature of Principal Investigator

Professional Studies
Department

12 Beardshear - Financial Aid
Campus Address

4-2223
Campus Telephone

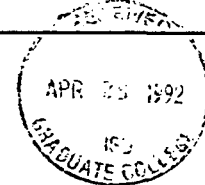
3. George H. Jackson Date 4/23/77 Relationship to Principal Investigator Major professor

4. Principal Investigator(s) (check all that apply)
 Faculty Staff Graduate Student Undergraduate Student
5. Project (check all that apply)
 Research Thesis or dissertation Class project Independent Study (490, 590, Honors project)
6. Number of subjects (complete all that apply)
___ # Adults, non-students 200+ # ISU student ___ # minors under 14 ___ other (explain)
___ # minors 14 - 17

7. Brief description of proposed research involving human subjects: (See instructions, Item 7. Use an additional page if needed.) I will do a study to identify factors which influence students to leave college prematurely. African-American students have a much lower retention rate at I.S.U. and nationally. I wish to do a random selection of students who have attended ISU beginning in 1984 to see who have or have not graduated within a six year period. All data will be gathered from the existing database within the Registrar's, Admissions, and Financial Aid Offices.

(Please do not send research, thesis, or dissertation proposals.)

8. Informed Consent: Signed informed consent will be obtained. (Attach a copy of your form.)
 Modified informed consent will be obtained. (See instructions, item 8.)
 Not applicable to this project.



9. Confidentiality of Data: Describe below the methods to be used to ensure the confidentiality of data obtained. (See instructions, item 9.)
- All data will be kept confidential. No other person besides the researcher will be given access to information. Data processing will not include identifiable information (names, SS#, Etc.).

10. What risks or discomfort will be part of the study? Will subjects in the research be placed at risk or incur discomfort? Describe any risks to the subjects and precautions that will be taken to minimize them. (The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological or emotional risk. See instructions, item 10.)

none

11. CHECK ALL of the following that apply to your research:
- A. Medical clearance necessary before subjects can participate
 - B. Samples (Blood, tissue, etc.) from subjects
 - C. Administration of substances (foods, drugs, etc.) to subjects
 - D. Physical exercise or conditioning for subjects
 - E. Deception of subjects
 - F. Subjects under 14 years of age and/or Subjects 14 - 17 years of age
 - G. Subjects in institutions (nursing homes, prisons, etc.)
 - H. Research must be approved by another institution or agency (Attach letters of approval)

If you checked any of the items in 11, please complete the following in the space below (include any attachments):

Items A - D Describe the procedures and note the safety precautions being taken.

Item E Describe how subjects will be deceived; justify the deception; indicate the debriefing procedure, including the timing and information to be presented to subjects.

Item F For subjects under the age of 14, indicate how informed consent from parents or legally authorized representatives as well as from subjects will be obtained.

Items G & H Specify the agency or institution that must approve the project. If subjects in any outside agency or institution are involved, approval must be obtained prior to beginning the research, and the letter of approval should be filed.

Last Name of Principal Investigator Henderson

Checklist for Attachments and Time Schedule

The following are attached (please check):

- 12. Letter or written statement to subjects indicating clearly:
 - a) purpose of the research
 - b) the use of any identifier codes (names, #'s), how they will be used, and when they will be removed (see Item 17)
 - c) an estimate of time needed for participation in the research and the place
 - d) if applicable, location of the research activity
 - e) how you will ensure confidentiality
 - f) in a longitudinal study, note when and how you will contact subjects later
 - g) participation is voluntary; nonparticipation will not affect evaluations of the subject
- 13. Consent form (if applicable)
- 14. Letter of approval for research from cooperating organizations or institutions (if applicable)
- 15. Data-gathering instruments

16. Anticipated dates for contact with subjects:

First Contact

Last Contact

_____ Month / Day / Year

_____ Month / Day / Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

_____ Month / Day / Year

18. Signature of Departmental Executive Officer Date Department or Administrative Unit

_____ 4/20/92 Professor, Social Studies

19. Decision of the University Human Subjects Review Committee:

Project Approved Project Not Approved No Action Required

Patricia M. Keith
Name of Committee Chairperson

_____ Date

_____ Signature of Committee Chairperson

APPENDIX E.

RETENTION AND GRADUATION RATE BY ETHNIC GROUP

10/13/1992

IOWA STATE UNIVERSITY
RETENTION AND GRADUATION RATE BY ETHNIC GROUP, BY GENDER, AND BY CITIZENSHIP

Entry Group	Entry Year	Total First-Time Freshmen	-Retention Rate-		----Graduation Rate----		
			1 Year	2 Year	4 Year	5 Year	6 Year
Total	1983	4,170	82.1%	70.9%	24.3%	54.6%	61.3%
	1984	4,098	80.4%	69.5%	23.3%	53.9%	60.3%
	1985	4,073	82.0%	71.3%	24.1%	54.1%	61.7%
	1986	4,016	81.7%	72.2%	21.4%	54.4%	
	1987	3,739	81.7%	72.2%	20.3%		
	1988	3,848	82.7%	72.6%			
	1989	3,837	81.4%	71.9%			
White	1983	3,763	84.1%	73.1%	25.3%	57.2%	63.9%
	1984	3,742	81.4%	70.4%	24.2%	55.5%	62.0%
	1985	3,722	82.7%	72.5%	24.7%	55.8%	63.5%
	1986	3,678	82.7%	73.7%	22.2%	56.3%	
	1987	3,433	82.6%	73.6%	21.1%		
	1988	3,479	83.6%	74.0%			
	1989	3,352	82.7%	73.4%			
Black	1983	203	59.1%	41.4%	7.9%	20.7%	24.6%
	1984	149	62.4%	49.0%	7.4%	25.5%	30.2%
	1985	128	60.2%	42.2%	5.5%	20.3%	25.8%
	1986	146	62.3%	44.5%	7.5%	26.0%	
	1987	115	60.9%	40.9%	5.2%		
	1988	147	70.1%	51.0%			
	1989	190	62.1%	52.1%			
Hispanic	1983	27	74.1%	66.7%	7.4%	25.9%	40.7%
	1984	32	71.9%	56.3%	9.4%	28.1%	40.6%
	1985	41	75.6%	58.5%	19.5%	41.5%	46.3%
	1986	45	82.2%	68.9%	6.7%	28.9%	
	1987	29	79.3%	75.9%	17.2%		
	1988	48	81.3%	58.3%			
	1989	60	78.3%	60.0%			
Asian	1983	80	78.8%	68.8%	30.0%	51.3%	63.8%
	1984	90	80.0%	70.0%	23.3%	52.2%	60.0%
	1985	118	85.6%	75.4%	26.3%	48.3%	55.1%
	1986	71	88.7%	76.1%	26.8%	52.1%	
	1987	89	86.5%	71.9%	20.2%		
	1988	62	82.3%	75.8%			
	1989	88	85.2%	76.1%			
Native American	1983	3	66.7%	66.7%	33.3%	33.3%	66.7%
	1984	2	50.0%	50.0%	50.0%	50.0%	50.0%
	1985	5	100.0%	80.0%	40.0%	40.0%	60.0%
	1986	1	100.0%	0.0%	0.0%	0.0%	
	1987	2	0.0%	0.0%	0.0%		
	1988	3	100.0%	66.7%			
	1989	9	77.8%	66.7%			

APPENDIX F.

RETENTION AND GRADUATION RATE BY ETHNIC GROUP

10/25/1993

IOWA STATE UNIVERSITY
 RETENTION AND GRADUATION ANALYSIS
 NEW DIRECT FROM HIGH SCHOOL - DATA FOR ALL FIRST-TIME FRESHMEN BY ETHNIC GROUP

- PAGE 2

ADMIT YEAR	TOTAL FIRST-TIME FRESHMEN	CUMULATIVE GRADUATION RATE AND CONTINUATION RATE											
		RETURNED 1ST YEAR	RETURNED 2ND YEAR	RETURNED 3RD YEAR	GRAD BY END OF 3RD YEAR	RETURNED 4TH YEAR	GRAD BY END OF 4TH YEAR	RETURNED 5TH YEAR	GRAD BY END OF 5TH YEAR	RETURNED 6TH YEAR	GRAD BY END OF 6TH YEAR	RETURNED 7TH YEAR	
1989	American Indian	7	100.0%	7	71.4%	5	0.0%	0	57.1%	4	42.9%	3	14.3%
	African American	181	98	54.1%	0	0.0%	0	47.5%	6	6.6%	12	37.0%	
	Asian/Pacific Islander	72	62	86.1%	55	76.4%	0	69.4%	11	15.3%	11	47.2%	
	Hispanic	55	44	80.0%	34	61.8%	0	56.4%	31	10	10	40.0%	
	Caucasian	3,296	2,779	84.3%	2,459	74.6%	22	70.0%	2,308	701	21.3%	1,568	47.5%
	Non-citizens	54	45	83.3%	33	61.1%	1	53.7%	29	15	15	27.8%	
	Other	66	66	100.0%	59	89.4%	3	62.8%	54	11	11	47.7%	
	TOTAL	3,751	3,119	83.2%	2,745	73.2%	26	68.3%	2,562	763	20.3%	1,748	46.5%
	1990	American Indian	5	3	60.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		African American	109	89	81.7%	77	70.6%	0	61.5%	39	35.8%	39	35.8%
Asian/Pacific Islander		58	48	82.8%	44	75.9%	0	67.2%	15	15	15	26.1%	
Hispanic		28	23	82.1%	17	60.7%	1	53.6%	26	2,038	68.4%	40	
Caucasian		2,979	2,440	81.9%	2,153	72.3%	2	64.5%	28	1	28	40.6%	
Non-citizens		62	53	85.5%	48	77.3%	2	3.2%	30	2,227	67.3%	30	
Other		69	69	100.0%	36	52.2%	1	1.4%	30	2,227	67.3%	30	
TOTAL		3,310	2,700	81.6%	2,373	71.7%	3	0.9%	2,227	67.3%	30	2,227	
1991		American Indian	7	4	57.1%	82	67.2%	54	73.0%	27	51.9%	2,019	82.1%
		African American	122	104	85.2%	53	43.4%	27	22.1%	66	53.3%	66	53.3%
	Asian/Pacific Islander	74	53	71.6%	40	52.9%	20	26.9%	19	25.7%	19	25.7%	
	Hispanic	52	40	76.9%	28	53.8%	19	36.5%	19	36.5%	19	36.5%	
	Caucasian	2,787	2,287	82.1%	2,019	72.4%	66	23.7%	66	23.7%	66	23.7%	
	Non-citizens	85	72	84.7%	57	66.3%	57	66.3%	57	66.3%	57	66.3%	
	Other	101	67	66.3%	2,627	2,309	87.4%	2,309	87.4%	2,309	87.4%	2,309	
	TOTAL	3,228	2,627	81.4%	2,309	71.5%	2,309	71.5%	2,309	71.5%	2,309	71.5%	

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 RETENTION AND GRADUATION ANALYSIS
 NEW DIRECT FROM HIGH SCHOOL - DATA FOR ALL FIRST-TIME FRESHMEN BY ETHNIC GROUP

ADMIT YEAR	TOTAL FIRST-TIME FRESHMEN	CUMULATIVE GRADUATION RATE AND CONTINUATION RATE				GRAD BY END OF 6TH YEAR	RETURNED 6TH YEAR	RETURNED 7TH YEAR
		RETURNED 2ND YEAR	RETURNED 3RD YEAR	GRAD BY END OF 4TH YEAR	RETURNED 5TH YEAR			
1992	5	3						
	American Indian	60.0%						
	African American	96						
	Asian/Pacific Islander	69.1%						
		74						
	Hispanic	78.7%						
		35						
	Caucasian	67.3%						
		2,342						
	Non-citizens	82.7%						
		105						
	Other	93.8%						
		71						
	TOTAL	72.4%						
		2,726						
		81.8%						

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