

He advocates "doing something about things we can control. We need to do things in the teaching and learning process that help develop self-concept and self-esteem, that utilize and build on the strengths of minority students, including an understanding of different learning styles."

This includes contacting individual students at an early stage--as early as seventh grade--through such programs as the King/Chavez/Parks College Day. Other students will be nurtured through their high school years as part of the Incentive Scholarship Program, which guarantees them admission to and financial support from the college of their choice, providing they meet certain academic requirements. Promising eighth graders in the Detroit public schools are recruited for this program.

The King/Chavez/Parks Program is tied to other undergraduate recruitment projects already in place on campus, each benefiting from the others through mutual reinforcement. These include the Ambassadors Program of the Office of Undergraduate Admissions (in which current students contact potential students to share information and discuss concerns), alumni mentors, a national network of recruiters supported by the Alumni Association and football coach Bo Schembechler and his recruiters, who are asking counselors to identify "blue chip" academic prospects during their high school visits.

### Early Discovery

The University of Michigan is reaching out directly to Michigan's minority students during their early school years. Increasingly too, the University will try to work with school leadership, teachers and counselors to help improve the quality of education so that more students are prepared to take advantage of opportunities for higher education including admission to The University of Michigan. Two outreach programs exemplify University efforts and illustrate that eventual success depends on developing long-term program investments. These are the Detroit Area Pre-College Engineering Program and the Mackenzie High School/University Writing Program.

DAPCEP. More than 1,600 Detroit junior and senior high school students are reached annually by the Detroit Area Pre-College Engineering Program (DAPCEP), a program designed to increase minority representation in engineering and technical fields.

Founded in 1976 and led by a board comprised of public school, industry and University representatives and parents, DAPCEP sponsors intensive math and science classes, summer programs, industry tours and tutorial services designed to give students exposure to the science and engineering fields.

A late April symposium for approximately 75 teachers and pre-college program administrators from across the country was designed to chronicle DAPCEP's successes, share its methods and unveil progress made on DAPCEP's National Science Foundation-funded (NSF) project to develop a curriculum guide and supplementary math and science materials for use in secondary schools.

A 1986 survey of former DAPCEP participants revealed that 77% of those currently in undergraduate programs had identified science or engineering fields as career choices. Eighty-four percent of the DAPCEP college graduates were working in engineering, computer science, architecture or science.

In addition, the percentage of DAPCEP students who participated in the Metropolitan Detroit Science Fair has increased nearly five-fold, from 11% in 1977 to more than 50% today.

Curriculum projects completed under the \$622,000, three-year NSF grant include sections on outstanding minority engineers, both past and present, a research method that shows students how to formulate and test ideas and record their observations; science fair project instructions, for projects that illustrate science and engineering principles; information on a variety of engineering fields and current engineering issues; and instructional videotapes for students and teachers.

Detroit Public Schools Superintendent Arthur Jefferson told symposium participants that DAPCEP is "one of the key strategies in providing certainty of opportunity for all graduates in the Detroit public school system."

The U-M is a founding member of DAPCEP and some 90 students who have enrolled in the School of Engineering participated in DAPCEP programs.

"Every year, we sponsor the Summer Enrichment Program here at the University," Sharon R. Burch, student adviser in the College of Engineering's Minority Engineering Program Office (MEPO), explains. "It's a four-week residential experience for ninth- and 10th-graders."

Students receive intensive training in math, computer science, engineering, and oral and written technical communications. "Field trips and special motivational lectures help round out the program," adds Burch, who also is DAPCEP vice president.

The University also played a role in the curriculum guide project, inviting Detroit teachers to observe Engineering faculty as they taught various summer enrichment classes.

Joint Writing Program. Now ending its third year, the Mackenzie High School/U-M Writing Program challenges young people to set goals for themselves and meet them, hopefully on the way to a college education. It is only one part of a program of cooperation with Detroit schools called the Detroit Public Schools/University of Michigan Collaborative Committee.

The centerpiece of the project is an outcome-based writing program for high-achieving ninth-graders. Based on a proposal by Elizabeth Hood, then Mackenzie's principal and now a professor at Wayne State University, 50 ninth-graders were selected for an advanced curriculum emphasizing communication and critical thinking skills. Self-confidence also is stressed.

"The idea was to select a group of students and develop their critical thinking skills enough to score well on college admissions tests," says Austin Sanders, U-M alumnus and coordinator of the program at Mackenzie.

Sanders notes that recent test scores indicate the program is working. On the reading portion of the Michigan Education Assessment Program test for 10th-graders, 70 to 74 (95%) of the Mackenzie students in the writing program ranked in the highest category, compared with 32% of the rest of Mackenzie's 10th-graders. On Detroit's High School Proficiency Exam, 78.8% of the program's students passed the writing portion, compared with 55.7% of those not in the program.

The joint program has a two-fold purpose, according to Barbara S. Morris, U-M consultant on the project and a Residential College and English Composition Board lecturer. "One is to better prepare students for whatever educational goals they might have in secondary school and beyond. The second is to motivate them to be persistent and to have the self-confidence to work for and achieve whatever goals they have for their lives."

School Superintendents Forum. The vice provost for minority affairs is meeting regularly with 35 Michigan school superintendents in systems enrolling some 80% of Michigan's minority students. The purpose is to cooperate in improving educational opportunities for K-12 students and to provide feedback to the U-M about how it can improve its outreach effort. Planned for the future are programs with school counselors and teachers.

Programs with Michigan Schools. Beginning in the fall of 1987, meetings sponsored by Provost James J. Duderstadt and Ann Arbor Public Schools Superintendent Richard C. Benjamin explored University-schools cooperation to enrich minority student education. More than 10 specific projects have been launched under this program, including music education, substance abuse prevention and computer labs. Starting this summer, biology study labs

using University-developed tutorial software will be designed and adopted in each of Ann Arbor's high schools. Prof. Lewis Kleinsmith, who is responsible for the project, also is working with two Flint schools and plans to extend his program to Detroit schools in the near future.

Some other examples of faculty outreach to Michigan schools include:

Layman E. Allen, professor of law and research scientist at the Mental Health Research Institute, works with teachers at four middle schools in Detroit, helping them to incorporate instructional gaming techniques into the regular mathematics curriculum.

Burton E. Voss, professor of science education, is working with high school teachers in Detroit to help them integrate use of microcomputers in general chemistry classes and evaluate effectiveness of computerized drill and practice.

Carl F. Berger, dean of the School of Education, developed "The Student as Grapher: Microcomputer-Assisted Thinking Skills," a program to be used in Detroit schools to help students improve graphing skills.

Middle school teachers learn the game of EQUATIONS, an instructional gaming technique taught by U-M law and School of Education faculty to supplement the mathematics curriculum in the classroom.

"The Student as Editor: Microcomputer-Assisted Thinking Skills" program to improve students' writing skills.

The Office of Minority Affairs administers school outreach programs including:

Incentive Scholars Program. A consortium of Michigan higher educational institutions guarantees full tuition scholarships to selected exemplary ninth-graders who maintain a specified performance level throughout high school.

King/Chavez/Parks College Day and Multi-week Residential Programs, King/Parks/Chavez Career Exploration Summer Program. These programs encourage students to explore careers and to be aware of the importance of academic preparation in high school. Participating units include Engineering, Medical Sciences, Nursing, Pharmacy, Dentistry and the Medical School.

Leaders in Training. A four-week residential program for high school sophomores and juniors who assist with Career Exploration programs and

participate in seminars on leadership skills, career planning, and standardized testing.

The U-M School of Engineering is becoming a national leader in successfully recruiting minority students to a field that has traditionally attracted few minority enrollments. Early discovery has been one of the major building blocks of the effort. Engineering has taken a long-range approach that is now beginning to pay off, but the initial commitment and investment begins early and must be sustained for years before the benefits are seen. This year, the U-M freshman minority enrollment in Engineering is up to 20%. Here are some of the reasons:

Minority Engineering Program Office (MEPO), founded in 1970, participates in eight separate programs to expose 7th- to 12th-graders from underrepresented minority groups--particularly American Indians, Blacks, Hispanics and Puerto Ricans--to technical careers and to prepare them for entry into college engineering. The programs are:

Detroit Area Pre-College Engineering Program (DAPCEP). Described earlier in this report, this 10-year-old statewide partnership between universities, industry and 36 middle schools to reach students in the metro Detroit area, Washtenaw County and Flint area has reached 5,000 students since 1984 (more than 1,300 students in 1985-86). This program includes the new Science Mentor Project in which 35 professionals have agreed to work with middle school or high school students on academic and career matters.

Engineering Industrial Support Program (EISP) is a statewide partnership that has reached about 1,000 students.

The Accelerated Students Potentially Interested in Engineering (ASPIRE) is a statewide partnership, formerly the Flint Pre-Engineering Education Project, that has reached more than 1,000 students.

Summer King/Chavez/Parks Program. These two- and four-week summer programs were begun in 1987 for about 100 middle and high school students to introduce them to engineering careers and the demands of a college environment.

Summer Enrichment Program (SEP) is a four-week program for ninth- and 10th-graders that features advanced math, computer science, engineering, oral/written technical communications, lab tours, field trips and special lectures.

Summer Apprenticeship Program (SAP) is an opportunity to spend the summer working with Engineering faculty and graduate assistants on a variety of research projects. Stipends are provided.

## Student Recruitment

Recruitment of minority students is the job of the Undergraduate Admissions Office and all the schools and colleges. They have developed many programs to reach minority students in the state and nationally and attract them to the University. This year the budget of the University Admissions Office was increased by \$97,000 to support expanded minority outreach.

A new director of admissions is to be appointed this summer. A major criterion for the selection has been a commitment to and a demonstrated record of achievement in minority student recruitment.

Studies are in progress to help identify recruiting goals and potential pools of students. Surveys are being conducted by the Institute for Social Research for the Office of Academic Affairs to learn why many of Michigan's minority high school graduates do not apply to the U-M or if they apply and are admitted, why some choose to enroll elsewhere.

Staff from the Office of Undergraduate Admissions contact about 2,000 minority high school students each year in Detroit and other areas with large number of minority students.

Hispanic recruitment is facilitated by Admission Counselor Eduardo Torres, who is also the vice president of the College Recruitment Association for Hispanics, a statewide effort to encourage Hispanic students to attend college.

Receptions are held for selected admitted students including Black, Hispanic and American Indian freshmen and their parents in Roseville, Ann Arbor, Kalamazoo, Detroit, Dearborn, Blissfield, Jackson, Troy, Flint, St. Clair, Holland, Grand Rapids, Traverse City, Midland, Mackinac City, Iron Mountain, Houghton and Marquette.

Other outreach recruiting programs include:

Adjunct Admissions Offices--located in metro areas to facilitate minority outreach.

"A Better Chance" Program--national search and referral program utilized by the Admissions Office.

The Office of Undergraduate Admissions--presents counselor workshops in public, private and parochial high schools and community colleges in the Detroit metro area.

Detroit High School Liaison Committee--works with local high schools to identify promising students, prepare them for SAT/ACT tests and AP exams, offer career counseling and mentorship--extended to eight other regions in '88.

Alumni Association--workshops and luncheons for high school administrators, counselors, church leaders and community and ethnic leaders held in Lansing, Benton Harbor, Grand Rapids, Flint, Jackson, Battle Creek and Muskegon under the auspices of the Office of Undergraduate Admissions.

National Scholarship Service Fund for Negro Students College Fair--in Detroit, Chicago, New York City and Pittsburgh, Pa., each spring a representative of the Admissions Office attends the fair and visits area high schools.

**Campus visitation programs include:**

Campus Day--sponsored by the Admissions Office for all admitted freshmen and their parents.

Double M Day--sponsored by the Admissions Office--students interested in Marygrove College or Two-Degree Opportunity Programs between Marygrove and U-M visit both campuses in the same day--program involves U-M colleges of Engineering, Pharmacy and Architecture and Urban Planning; schools of Natural Resources and Nursing--targeted at, but not limited to, minority high school graduates.

Michigan Scholars Recognition Day--invitations to admitted freshmen nominated for Regents Alumni Scholarships or Michigan Achievement Awards--designated for outstanding students who are members of under-represented minority groups.

Office of Undergraduate Admissions Visits--twice each year hundreds of ninth-, 10th- and 11th-grade Black, Hispanic and American Indian honor students who attend designated schools in metropolitan Detroit are invited to the campus.

Orientation Office Minority Student Spring Visitation Program--two-day overnight campus visit--minority high school students meet with minority students, faculty and administrators to learn about the University and its support services.

Spring Campus Awareness Visitation Program--for ninth- and 10th-graders--brings more than 500 students to campus for a day-long program in May--enrolled students serve as guides.

The Fall Minority Student Welcome Program (Fall Campus Visitation)--co-sponsored by the Orientation Office and the Office of the Vice President for Academic Affairs--transportation and lunch provided for high school seniors from selected schools who wish to visit campus. About one-third of the 370 seniors who came in 1987 applied for admission and half of those were accepted.

Minority Student Symposium--reception for prospective Detroit-area students.

Michigan Hispanic Education Conference--largest Hispanic conference in the state--co-sponsored by U-M--includes meetings with prospective students and parents.

**Current U-M students reach out to recruit through a number of programs:**

Student Ambassador Program--A pool of about 100 student volunteers, mostly minorities, has been trained to assist in the recruitment of prospective minority students. They serve as hosts to visiting minority high school students, visit their high school *alma maters* to encourage students to apply to Michigan, call seniors that have been admitted, and refer names of high-achieving high school students to the Admissions Office.

Minority Student Telephone Call-Out Program--Student volunteers call minority students who have been admitted, but have not yet accepted admission.

Each One, Reach One--Minority freshmen identify prospective applicants who are then contacted by the Admissions Office.

Minority Graduate Engineering and Scientists--MGES is an organization formed in 1986 to foster interactions between engineering and science graduate students and to increase their numbers at U-M.

Every college and school has adopted recruitment strategies targeted to minorities. Most involve faculty and alumni task forces that have more or less formal structures. Here are just two of them:

The Task Force on Minority Student Recruitment and Retention in the Health and Biological Sciences represents the vice provost for medical affairs and the deans of LSA, Pharmacy, Dentistry, Nursing, Public Health, Medicine



and the Rackham School of Graduate Studies. The task force has just issued a report on both long- and short-term recruitment strategies in the health and biological sciences.

The Minority High School Research Apprentice Program offers summer apprenticeships in science research for promising high school students. The first six apprenticeships were awarded in the summer of 1987, three funded by NIH and three by U-M.

In addition to grouped college and school programs and services, each individual school and college has its own offerings for minority students. To cite just some of the programs:

School of Art--produced and uses an animated film to inform minority junior high school students how to prepare for college.

The School of Business Administration participates in the Minority Admission Recruitment Network, a national clearinghouse for information about members' schools, and sponsors a four-week program to inform high school students about business education. For undergraduate recruiting, the School mails a brochure and other materials to minorities taking the SAT or ACT. Each year the Black Business Students Association offers one scholarship for undergraduates and one for master's degree candidates. A summer program informs minority high school seniors about business education and careers.

The School of Dentistry operates a Health Career Opportunity Program, funded by the U.S. Department of Human Services, in which minority faculty members recruit students at five sites: Wayne State University, Eastern Michigan University, Michigan State University and the U-M campuses in Dearborn and Flint. The School also has a Career Enrollment Program covering topics such as anatomy, study skills and debt management.

The School of Education sends letters to minority alumni identified by the School's Office of Minority Student Affairs, encouraging them to recruit students and to provide a list of prospects. Minority faculty are urged to contact colleagues elsewhere for the names of prospects.

In the College of Engineering, the Minority Engineering Program Office offers summer programs for minority high school students and is involved in the Summer Apprenticeship Program, which pairs promising high school juniors and seniors with College faculty. Telephone and personal contacts are made with prospects after identifying them through surveys of pre-college programs nationwide and SAT and ACT listings. The College offers a six-week summer

orientation for minority students and supports the efforts of the Society of Minority Engineering Students.

Engineering oversees the DAPCEP Summer College Engineering Exposure Program (SCEEP), a recruitment-oriented program in which selected high-achieving minority seniors from across the United States spend a week on campus to learn about the College. In the Weekend on Campus Program, minority Michigan high school seniors who appear to be good candidates for the College are invited to spend a weekend on campus during the school year. They room with Engineering students, tour campus and attend workshops.

Law School sends recruitment literature to students whose names come from the Law School Administration Council data base, which includes all registrants for the Law School Admissions Test and all law school applicants nationwide. The Black Law Students' Alliance and the Hispanic Law Students Association match entering students with upperclasspeople for advice, counseling and basic tutoring, individually and in groups. The Minority Academic Advancement Program provides academic support and promotes legal and analytical skills.

Medical School uses the Medical Minority Applicant Registry of the Association of American Medical Colleges to find students with top scores on the Medical College Admissions Test. Prospects are located through sources including minority medical alumni, the Black Medical Student Association, the Latin American-Native American Medical Association and the local chapter of the Student National Medical Association. Recruitment trips are made to selected colleges and universities. Academic and financial support programs are tailored to minorities and include support from the Margoes Foundation: tuition, room and board for one entering in-state minority student for one year.

The School of Natural Resources works with the Office of Undergraduate Admissions to contact minority high school juniors in Michigan, Illinois, Indiana, Ohio, New York and New Jersey with high PSAT scores. A \$3,000 grant from the U.S. Department of Agriculture Research Apprenticeship Program helps the School conduct a summer research program for high school juniors and seniors. A staff member serves as liaison with the Alumni Association's minority graduate recruitment program.

The School of Nursing distributes a minority recruitment brochure and sends recruitment letters to secondary school counselors in Washtenaw County. Prospects identified through the Educational Testing Service's Minority Locator are sent information. The Minority Student Nurses Association has been reactivated and is helping plan recruitment strategies. Prospects at the fall Graduate Program Open House receive follow-up calls from faculty and staff.

University undergraduate recruitment is not confined to high school graduates. These initiatives are seeking students already enrolled in other postsecondary schools:

The Two-Degree Opportunity (2-DO) Program--based on a collaboration with Marygrove College in Detroit--results in dual degrees for participating students. Marygrove's President John E. Shay, Jr., a U-M alumnus, initiated the program and told the University Record that the program is "to our knowledge, the first of its kind in the nation, combining the special advantages of a small, liberal arts college with the obvious strengths of a world-class university."

The 2-DO program involves U-M's colleges of Engineering, Pharmacy, and Architecture and Urban Planning and the schools of Natural Resources and Nursing. The program is targeted but not limited to urban, minority high school graduates who have successfully completed a college prep curriculum.

Marygrove, which enrolls 1,000 undergraduates on its campus in Northwest Detroit, recently received pledges of \$15,000 each from the Upjohn Co. of Kalamazoo and Michigan Bell Telephone Co. to meet a \$30,000 challenge grant from the McGregor Foundation to help fund the program. The money will be used for scholarships, counseling, program promotion and special orientation activities.

Students accepted into the program by Marygrove must successfully complete prescribed courses (usually 90 semester hours) before enrolling at the U-M. The students will work closely with Marygrove faculty and visiting professors from the U-M in curricula approved by both schools.

Participants will take a broad program of liberal arts classes and typically be required to live on Marygrove's campus in order to foster a closeness between students, faculty and counselors. Students also may be required to spend a summer term at the U-M.

After they have successfully completed the prerequisite courses, the 2-DO students enroll in one of the participating University units. Most U-M programs require two years for students to finish. At the end of that time, the students will earn a liberal arts degree from Marygrove, and either a second undergraduate degree or a master's degree from the U-M.

Community College Programs--The University is exploring cooperative programs with community colleges in Michigan to help more students transfer successfully to the U-M. The vice provost has visited many

community colleges individually and a meeting of community college presidents was convened in May to begin developing statewide collaboration.

Efforts to seek out and re-enroll minority students who have left the U-M without graduating will be led by the vice provost. Research is underway to learn why students drop out and how they can be encouraged or assisted to return.

### Supporting Academic Achievement

The New Orientation Program. "The Need for Diversity" was the topic addressed by incoming students during a special three-hour program. This year's winter session was the first in which the diversity of the campus community was formally addressed at orientation. (The issue was discussed informally during last summer's sessions for fall freshmen.)

As part of the new orientation program, the theater troupe Talk To Us re-enacted several scenarios encountered by students, including wondering about unknown roommates. At a crucial part of the scene, the actors would stop, although staying in character, and moderate while the audience asked and answered questions about the situation, a strategy that often led to intense discussions among the 240 students in attendance.

The troupe is sponsored by the Housing Division and the B'nai B'rith Hillel Foundation and directed by Scott Weissman, visiting lecturer in theater and drama. Members also performed scenes and led discussions on sexism and homophobia. The group also conducted a monologue addressing stereotypes and labeling.

"It was a refreshingly original style," one student wrote in an evaluation of the presentation. "The audience-player interaction generated much enthusiasm and thought," wrote another.

The orientation program also featured small group discussions, a video program focusing on past problems with racism at U-M and the institution's commitment to diversity, and self-assessment exercises.

James H. Beck, U-M director of development and marketing communication, wrote and produced the video which bluntly reminds students how racist incidents on campus in 1987 sparked a renewed challenge for administrators, faculty, staff and students alike.

The 10-minute program shows the U-M as a multi-cultural university with a more diverse population than most students experience in their own hometowns. It challenges them to celebrate the differences among people.

The small group discussions focused on day-to-day problems, such as loud stereos, relationships with faculty, and similar issues, particularly where race is involved.

"As I looked around, my impressions were that the students were very attentive to the topics being discussed," said Robert B. Holmes, assistant vice president for academic affairs. "They certainly cared about what was happening and wanted to participate. I really had a feeling that the students were engaging the issues. It was a good reflection on the quality of the incoming group."

The orientation program was created last fall by a 23-member task force comprised of faculty, staff and students under the direction of Provost Duderstadt, Charles D. Moody Sr., vice provost for minority affairs, and Henry Johnson, vice president for student services.

The task force, which represents a variety of interests, will evaluate the program and review student responses in an effort to enhance and improve it for future sessions, according to Holmes. "We are very, very grateful to the orientation program task force," Holmes said. "Students, faculty and staff from many different parts of the University came together during the fall term and, within the confines of a very short time frame, had a series of intensive meetings to develop this new and special program."

"We see this as only the start," he added. "Now there is a need for other parts of the campus to pick up the principles, ideas and challenges put forth here and continue to emphasize them to students throughout their careers at U-M."

Mastering the College Experience. This eight-week course is designed to help incoming undergraduates understand the nature of a large research university and aid them in developing strategies for success at the U-M. An introduction to scholarship in the humanities, social sciences and natural sciences will be presented by LSA professors lecturing in the course. Students are being taught the fundamentals of decision-making, problem-solving and planning. The course format includes lectures on Mondays, followed by two-hour sessions on Wednesdays in which both academic topics and learning skills will be introduced.

A list of topics to be covered during the eight weeks includes: critical and analytical thinking, reading comprehension, written and oral communication, library research, goal setting, time management, listening and note-taking, and test-taking.

The Biology Study Lab was developed by Prof. Lewis Kleinsmith of the Department of Biology, a noted scholar and cancer researcher. He was concerned by data collected during the early 1980s which revealed that the average grade received by Black and Hispanic students in introductory biology was almost two full grades below the class

mean. This finding was a source of serious concern to Kleinsmith. Further, the data showed that the problem of under-performance was not limited to minority students. Kleinsmith's analysis of these data caused him to re-examine the teaching methodology of his course with the hope that students of varying backgrounds could better learn how to apply the principles presented during his lectures. As a result, he developed computer-based tutorial programs. In September 1984, the Biology Study Center opened, complete with 15 Commodore 64 computers. Software was available to students that gave them experience in applying principles and concepts with which they already had a basic familiarity.

A second type of software covered the teaching of complicated concepts involving dynamic interactions of biological components in time and space. Since the Center was not billed as a minority program, almost all students in introductory biology soon began using it. Some questioned whether real learning could take place on \$199 Commodore computers purchased from K-Mart, but the results dispelled any doubts. Comments by students using the Center in fall 1984 were uniformly enthusiastic, and on the first examination during the fall term, the performance of minority students was almost 40 points higher (on a 200-point examination) than the minority student average of the prior two years.

In the three years that the Biology Study Center has been in operation, 97% of all students report using the software even though its use is optional and they use it throughout the term, not just before examinations. It is proving to be a valuable "learning" tool, not just a cramming tool. Indeed, when students have been asked to rank the software on a scale of 1 to 4 (where 1 is "very valuable" and 4 is "not valuable"), 85% rank it as "very valuable." The most dramatic effect, however, is an improvement in test scores. The following table compares the mean score on the first exam in introductory biology before the software was introduced (1979-83), with scores in the first two years that it was used (1984 and 1985), and with scores in 1986.

MEAN EXAM SCORES ON THE FIRST  
EXAMINATION IN INTRODUCTORY BIOLOGY

<u>Time Period</u>	<u>Overall Class Mean</u>	<u>Minority Student Mean</u>
1979-83	65.6	48.0
1984-85	75.0	65.5
1986	81.2	80.3

As shown in the table above, in the first two years that the software was used the class mean improved about 10% and improved further in the third year (1986).

What is perhaps even more dramatic is that the difference between minority and non-minority performance in the class has virtually disappeared.

Prof. Kleinsmith's work has revolutionized how students learn biology at the University. What is perhaps just as exciting, if not more so, is that his work could be used, with some modifications, in high schools, colleges and universities in many disciplines. For example, during the past year, Kleinsmith helped develop software that is being used by two high schools in Flint. He also is working with the Ann Arbor schools. Further, the economics department at Michigan State University is now using a version of his software that has been modified for its computing environment.

There are a great many other valuable University-wide programs and programs in the schools and colleges designed to support and supplement the academic work of minority students and improve the quality of their undergraduate experience at Michigan. To cite just a few:

Minority Welcome Program is an annual event directed toward Black, Asian American, Hispanic and Native American students. All incoming freshmen and transfer students, as well as faculty, staff and administrators, are invited to attend. This year's theme, "Performance, Accountability, Resources: P.A.R. Excellence," was designed to introduce minority students to the University resources available to help them achieve academic success. Keynote speaker was Charles D. Moody Sr., vice provost for minority affairs. Approximately 400 students attended.

Comprehensive Studies Program (CSP) offers academic counseling, referrals, tutorials and workshops in reading, mathematics and other subjects in LSA to enable less prepared students to reach their academic potential. CSP also offers intensive specialized sections in chemistry, accounting and foreign languages. Alumni have been recruited to serve as mentors to the 50 or so students involved in the program in 1986-87. CSP also sponsors lectures, mini-courses and informal gatherings for participating faculty and students. In the past year, two new career lectureships have been established and two new counseling positions and six new career lectureships have been authorized.

Pilot Program at Alice Lloyd Hall provides a small college atmosphere at the University. Nearly 600 freshmen and sophomores are enrolled in the 25-year-old program, and about 15% are minorities. The staff, which includes 18 live-in graduate teaching assistants, is 20% Black.

The program offers in-house courses for undergraduate students, some of which are focused on minority interests, including a mini-course introducing minority students to issues of being Black at a predominantly white university, enhancing self-esteem, critical thinking, study skills and a freshman composition course on writing about the Afroamerican experience.

Pilot Program also sponsors a student organization known as MYSTIC (Minority Youth Striving to Incorporate Excellence), a four-year mentor program that matches students with about 70 faculty and administrative personnel who serve as role models.

Peer Information Counseling Service is a program at the Undergraduate Library staffed by minority upperclass students who advise other students on the use of the Library's collection of books, magazines, journals, reference materials and other items, including the computer information retrieval system.

Opportunity Program offers admission help, financial aid and counseling for promising students. It includes a special on-campus orientation program each year in May. Students are assigned a counselor who supports, monitors and advises them throughout their undergraduate career.

Committee on Institutional Cooperation's Summer Research Opportunity Program matches minority undergraduates with faculty members in mentoring relationships for summer research projects.

Engineering Learning Resource Center is staffed by upperclass Engineering students and offers tutoring, study groups, exam files, computers, resume help and career information.

The University of Michigan financial aid program meets almost all of the needs of all Michigan minority students with a mix of grants, loans and work-study. The program is currently being evaluated to establish the best combination of aid for our students.

U-M financial aid is achieving its goal of enrolling students regardless of family income: as many students with family incomes below \$20,000 are admitted as those with family incomes above \$70,000. In other words, the number of students from low- and high-income families is roughly the same and has remained so for some time despite tuition increases. About 27% of the office's general budget (a total of



about \$30 million) goes to underrepresented minorities (mostly Blacks, Hispanics and Native Americans) who comprise 7.3% of the student population.

The Office of Financial Aid also reaches prospective students through admissions offices the University maintains in Detroit and Saginaw, and through dozens of activities throughout the year. Counseling sessions on completing financial aid applications are available at the Northwest Activities Center in Detroit and during spring vacation for currently enrolled students who reside in Detroit.

The Scholars Recognition Award will distribute \$60,000 in tuition in 1988-89 to outstanding minority students who will receive full tuition for four years under the program.

The Minority Engineering Program Office (MEPO) each year helps about 100 students finance their Engineering educations using public, private and University sources.

Michigan Incentive Grant distributed \$120,000 to 60 students in 1987-88. Michigan Achievement Award distributed more than \$700,000 to about 300 students in 1987-88. In 1987, 267 students received grants worth \$540,000.

Michigan Opportunity Grants distributed \$2.1 million to 575 students in 1987-88.

Minority Student Services offers assistance with questions about financial aid or scholarships.

Black Business Students' Association offers one undergraduate scholarship each year.

School of Architecture offers minority fellowships.

Dental School alumni have contributed to the establishment of the Disadvantaged Student Scholarship Fund to provide emergency financial help to minority students.

Law School has a program guaranteeing summer employment to qualified students. It also maintains a supplemental financial aid account to assist minority students.

School of Social Work offers a \$2,000 tuition award to all minority applicants who are admitted.

The percentage of minority student staff in residence halls is slightly higher than the minority occupancy rate of approximately 20%. Scholars who are committed to cultural diversity are frequently invited to visit for informal discussions with residents. The residence halls sponsor the College Community Program, designed to help minority freshmen adjust to the academic environment and featuring faculty lectures with discussion.

### Career Planning and Placement

An annual two-day career conference for minority and disabled students is hosted by the Career Planning and Placement Office. The conference brings together students, alumni and more than 100 employers. A professional improvement program is conducted each fall for 20-30 minority students to polish their interpersonal skills and prepare them to enter the work world.

Workshops on career planning and assertiveness training for minorities are regularly provided by Counseling Services.

### The Horace H. Rackham School of Graduate Studies

Efforts to recruit and support minority graduate students are being fortified by the University in the face of discouraging national statistics on minority graduate enrollment. A \$1,500 increase in the stipend offered this fall to U-M recipients of the Michigan Minority Merit Fellowship, the sponsorship of a University-hosted national conference on graduate education, and the expansion of a summer research program for prospective minority graduate students are just a few of those initiatives. The appointment of James S. Jackson, professor of psychology, to the post of associate dean for graduate student recruitment and retention in the Horace H. Rackham School of Graduate Studies marks an intensification of the Graduate School's efforts to address minority student issues. Jackson's years of experience working with minority graduate students in the social sciences already are improving the School's efforts.

"I believe in a straightforward philosophy of taking programs that work and building on them," Jackson says. "Rather than setting up many new, free-standing programs, I want to expand the best of our many ongoing efforts."

Jackson points to the Summer Research Opportunity Program (SROP), developed by the Committee on Institutional Cooperation, as an example of a successful program. It both encourages minority undergraduates to pursue graduate studies and "provides high visibility to the University."

Thirty-nine minority students--an all-time high--participated in the program at the U-M last year, assisting faculty mentors on research projects. This year, participation of SROP students from historically Black institutions will bring about a significant expansion of the program.

The Alfred P. Sloan Program in Public Policy Skills for Minority Students is another example of a major opportunity for minority undergraduates to pursue research, Jackson notes. The Sloan Foundation provides a \$1,000 stipend to outstanding minority students to spend eight weeks during the summer at any of 14 universities (including the U-M) where they take courses that offer basic training for graduate work in public policy.

The Graduate School plays a major role in offering Sloan students incentives to choose the U-M for graduate work. Once a Sloan student has been accepted for graduate work at the U-M's Institute for Public Policy Studies, the Sloan Program provides a \$6,000 stipend plus tuition for the student's first year of graduate work. The Graduate School matches that stipend for the student's second year of graduate study.

Among the Graduate School's newest initiatives for improving recruitment techniques is a workshop designed to encourage faculty involvement in recruiting and evaluation. Jackson is particularly enthusiastic about the idea of involving departments in minority recruiting programs.

"Chairmen of graduate programs and others involved in selection of graduate students will attend the workshops to review all aspects of minority recruitment, including the issue of students whose qualifications appear marginal but who have promise," Jackson explains. "The usefulness of criteria such as the Graduate Record Examination (GRE) also will be examined."

Major national conference. On a much larger scale, the Graduate School has offered to host a major national conference in Spring 1989 on minorities in graduate education. The conference is a follow-up to one held last year at the State University of New York at Stony Brook. Funded by the National Science Foundation and the Carnegie Foundation, the Stony Brook conference brought together faculty and administrators from the U-M, Harvard University, Stanford University, the University of California and other schools.

Like the Stony Brook conference, the U-M event will solicit papers and presentations from participants on issues ranging from the standardized testing to faculty mentoring of minority students. And like the Stony Brook conference, the main focus will be on "how to increase the number of minority graduate students in Ph.D. programs so as to increase the number of minority faculty in universities," says Homer A. Neal, now chairman of the Department of Physics and Stony Brook provost at the time the first conference was held.

"We are faced with a very critical problem in graduate education," Neal continues. "Nationwide, the number of minority graduate students has dropped by 20 percent during the last decade.

"The shift in the federal posture away from student financial aid is one factor contributing to the problem. Another is the fact that minority students do not have the same support structure as other students. They do not always receive the same mentoring, teaching and research opportunities as non-minority students."

Those two issues--financial aid and ongoing support--are receiving concentrated attention from the Graduate School. The School has increased the 10-month stipend for the Michigan Minority Merit Fellowship from \$7,500 to \$9,000 plus tuition. The fellowship program was established in 1982 and last year assisted about 50 minority students. This year, the Graduate School expedited the application procedure so that units with early admission deadlines were able to offer fellowships to outstanding candidates before the fellowship competition's official March 1 deadline.

"The numbers and quality of minority applications for fall 1988 are well ahead of comparable figures for last year, and currently the numbers of supported students in this program are higher than they have been for some time," says John H. D'Arms, Graduate School dean. "It is clear that our faculty colleagues share our determination to make progress in this difficult area. Our commitment is unwavering, and we think that this steadiness of purpose is bound to reap dividends in the future," he adds.

But often, financial assistance is only the beginning of a minority graduate student's needs, notes Mary H. Jarrett, director of the Graduate School's Fellowship Office. She and her staff of two financial aid officers provide extensive counseling to all Rackham students.

"We closely follow the academic progress of all students who receive funding from us, minority and non-minority," she says. "If students appear to be experiencing difficulties, we sit down and talk to them to find out the nature of the problem, then work with them on finding a solution.

The Graduate School has undertaken a number of other initiatives to encourage diversity:

Committee on Minority Student Recruitment. Members are institutions throughout the country with distinguished graduate schools. Talented minority undergraduates at these schools are urged to consider graduate study and their names are shared among member institutions.

Annual U-M Minority Undergraduate Luncheon. Undergraduates with high grade-point averages are invited to a lunch where they are recognized for their achievements and encouraged to consider attending graduate school.

Minority Visitation Program. Since 1976, the Graduate School has funded visits to the U-M by prospective minority students throughout the year.

Toll-Free Line. The Graduate School maintains a toll-free "800" number that is displayed in recruiting and fellowship information aimed at minority students. Requests for materials and questions about procedures, programs and fellowships are promptly handled by the Graduate School.

Minority Organization of Rackham (MOR). MOR is a two-year-old graduate student organization that supports the efforts of the Graduate School, departments and prospective and enrolled students. MOR played an important role in the search that culminated in Jackson's appointment as associate dean. For each of the last two years, MOR has sent representatives to Washington, D.C., to express minority student concerns to congressional leaders during National Student Lobby Day.

New initiatives, still in planning, include dissertation support groups for minority students and sensitivity training for Graduate School staff to improve the climate for minority and foreign graduate students. A plan to develop research teams that would link minority undergraduates with faculty and graduate students also is being considered.

Two initiatives to recruit students to graduate programs are illustrative of many efforts throughout the University:

**i) Graduate Psychology Visitation.** Ten minority undergraduates from across America came to the U-M to find out exactly what a graduate program in psychology is. The students, all hand-picked by the faculty of six schools ranging from San Diego State University to New York University, participated in a four-day workshop designed to "show them what a graduate program is all about and hopefully get them interested in the U-M," one of the workshop's planners said.

Gretchen Lopez, a workshop planner and president of the Hispanic Student Psychological Association, said the idea for the program grew from a discussion of admissions policy among several minority organizations and Department of Psychology faculty members.

Lopez said three groups--the Black Student Psychology Association, the Hispanic Student Psychological Association and the Native American Student Psychological Association--"haven't been satisfied with who gets accepted and who doesn't." She said the groups thought the workshop might be one way to increase minority enrollment in graduate psychology programs.

The workshop--jointly sponsored by the three minority groups and the Department of Psychology Graduate Office, and funded primarily by the Graduate School--taught the visiting undergraduates how to be competitive when applying for graduate programs in psychology.

The workshop also featured four U-M graduate students who described to the undergraduates their aspirations, their studies and their Ann Arbor experiences.

ii) Reaching to Historically Black Colleges and Universities. Since the early 1960s, the University has had a partnership for exchange and cooperation with several HBCUs including Tuskegee University, Hampton University, Virginia Union University and others, but in recent years these relationships have been relatively inactive. The vice provost for minority affairs, Charles D. Moody Sr., has taken the initiative not only to reactivate the U-M's past relationships with HBCUs, but to extend our partnerships to additional institutions, including: Florida A&M University, Morehouse College, Prairie View A&M University, Alabama A&M University, Cheyney University of Pennsylvania., Lincoln University, Tougaloo College and Le Moyne-Owen College.

Discussions with prospective academic partners are underway to explore mutually beneficial programs of student and faculty exchange, collaborative research and mutual assistance. "We believe these relationships can strengthen both parties," says Vice Provost Moody. They will also help the U-M identify and recruit HBCU graduates to Michigan's graduate and professional schools.

Moody also describes an initiative that has recently been begun to explore areas of cooperation between U-M and schools having large Hispanic enrollments, including members of the Association of Hispanic Universities.

To cite a few additional examples of graduate recruitment efforts:

A minority graduate student recruitment slide/tape program which introduces the U-M to prospective minority students was prepared with the help of the vice president for academic affairs.

School of Dentistry minority faculty members annually visit five Michigan colleges (EMU, WSU, MSU, UM-Flint and UM-Dearborn) to recruit minority students under the Health Career Opportunity Program funded by a grant from the U.S. Department of Health and Human Services.

The Medical School uses the Medical Minority Applicant Registry provided by the Association of American Medical Colleges to identify top scorers on the Medical College Admissions Test. The School also relies on minority alumni, Black Medical Association, Latin American-Native American Medical Association and the local chapter of the Student National Medical Association.

The School of Nursing seeks prospective graduate minority students through the Educational Testing Service's Minority Locator and maintains links with undergraduate nursing schools across the country such as Dillard and Florida AMU.

The College of Pharmacy's admissions counselor visits Black colleges in the South and Hispanic schools such as the University of Puerto Rico to meet prospective doctoral students, makes arrangements for interested students to visit the U-M campus, and corresponds with directors of Minority Access to Research Centers Program, an honors undergraduate research program at schools with minority enrollments of 50% or more.

**Financial aid** is vital to the University's ability to recruit minority graduate students. The following are some of the most important packages:

The Consortium for Graduate Students in Management Fellowships is supported by 100 major business firms and shared by nine business schools including U-M's School of Business Administration. In 1986-87, U-M had 41 CGSM fellows enrolled, 11 of them Michigan residents. Participants receive full tuition plus a \$3,000 stipend the first year and \$2,000 the second year.

The Black Business Students' Association offers one scholarship each year for a masters' degree candidate.

A Margoes Foundation scholarship provides an in-state minority medical student with room and board and tuition for one year.

The Health Career Opportunity Program (Opportunity Award Program), which offers minority and disadvantaged students a three-week course in debt management and financial counseling, is offered by the Dental School. In 1986, the School was able to reduce average dental student debt load from \$40,000 to \$30,000.

Under the same federally funded program, the School of Public Health assists with admission, retention and graduation of ten individuals per year from disadvantaged backgrounds. Supported with a three-year \$150,000 grant, need-based tuition scholarships are also available (\$141,000 is earmarked for minority graduate students in both merit and need-based financial aid. Twenty-five awards were given in 1986-87).

Consortium for Graduate Study in Management fellowships, which include full tuition and fees plus a stipend, are offered at the U-M School of Business Administration. School expenditures for minority students in the MBA program in 1986 totalled \$475,000. In 1986-87, 76 B-School students received CGSM fellowships.

The School of Pharmacy provided \$40,000 in financial aid to 15 minority students in 1986-87. Additionally, Pharmacy offers scholarships (up to \$4,000) to academically outstanding minority students.

The School of Public Health and the Office of Minority Affairs will co-sponsor two-year postdoctoral fellowships beginning with 1988-89 school years.

The Committee on Institutional Cooperation is a consortium of Big Ten universities and the University of Chicago funded by the Andrew W. Mellon Foundation. The program offers fellowships providing full tuition for an academic year plus an annual stipend for four years. Recipients at U-M totalled 47 in 1987-88.

The Center for African and Afroamerican Studies uses funding from the Office of Academic Affairs to award two DuBois-Mandela-Rodney postdoctoral fellowships each year. Stipends are \$7,500 for ten months.

The Minority Merit Fellowship Program, established in 1982, is administered by Rackham School of Graduate Studies. Students working toward a master's degree can obtain two years' funding; doctoral students, four years' funding.



The program provided tuition and stipends for 45 U-M students in 1987-88 totalling more than \$3.6 million.

The Rackham School of Graduate Studies funds other fellowship opportunities for minority students and summer research courses in selected subjects. Nearly 300 minority students received fellowship aid through the Graduate School during 1987-88. Funds are also available to bring minority applicants to campus as part of the recruiting effort. Total Graduate School expenditures for minority fellowships totalled \$33.8 million for 1986-87.

### Alumni Association

In 1984, the Alumni Association's board of directors set the recruitment and academic support of minority students as its highest priority, Forman said. "We exist in order to advance the goals and aspirations of the U-M in areas where the University has indicated it needs our assistance, and the resources of this organization have been adapted to pursue this goal."

Among the initiatives launched by the Alumni Association have been a network of Black graduates to recruit minority students and to encourage them to enroll at the U-M, a scholarship fund for minority students and a mentor program for Black graduates to interact with Black U-M students. Richard Carter, Alumni Association program director, coordinates these efforts.

An annual reunion for Black graduates, coordinated by the Alumni Association each fall since 1976, has generated a network of U-M alumni interested in advancing the concerns of minority students and faculty on campus.

The Undergraduate Recruitment Network, which works to increase the number of minority students at the University, currently involves 300 alumni volunteers. The volunteers contact admitted students to discuss the opportunities and challenges offered by a U-M education, and meet with the students and their families "to give them a personal orientation to this institution and give them a glimpse of what it takes to thrive in this competitive atmosphere."

Carter notes that the admissions and financial aid offices have assigned staff members to give priority assistance to the Undergraduate Recruitment Network volunteers, so that "the volunteers can focus their efforts on discussing the personal dimensions of the U-M experience."

The Martin Luther King Scholarship Fund is another cause that has been adopted by the Black alumni, Carter says. The competitive scholarships are awarded annually to Black freshmen with outstanding high school records, leadership qualities, and a

sense of Black pride and civic responsibility. The \$1,000 scholarships are awarded out of the income from an endowment, raised through solicitations of both Black and majority alumni, which currently totals nearly \$140,000.

Black alumni also are active in a liaison effort with area high school teachers and administrators "to have them identify potential applicants, and to encourage them to structure and implement college preparation programs in the high schools and the middle schools so that more students will meet the academic profile sought by the U-M." Carter says, "We hope that these students will choose Michigan when they graduate from high school--but we'll be winners wherever they go to school."

"Our University is very fortunate to have the help and counsel of such a distinguished group of alumni. They know us well, flaws and all, and they can help us learn and change for the better," James J. Duderstadt, provost and vice president for academic affairs, said recently. "We appreciate their effort and value their advice," he added.

Some other Alumni initiatives include:

A Senior Alumni Officer position has been created to coordinate student recruiting efforts through the Reunion for Black Graduates Program and the Black Leadership Council.

The Detroit High School Liaison Committee has established a model recruitment program which will be extended to eight other Michigan regions in 1988. The Committee works with local high schools on early student identification, preparation for SAT/ACT tests and AP examinations, career counseling, and mentorship.

The Michigan Minority Engineering Alumni Network was formed in 1987 to provide scholarships and support activities.

### Minority Faculty

It is important for the intellectual vitality of the University that the University increase the numbers of minority faculty and help them achieve their professional goals. The more minority faculty we recruit, the more diverse will be the University environment. This in turn will help to hire additional minority faculty who will find this an attractive and welcoming place where people from many backgrounds can thrive in their work and personal lives. Because the number of minorities now in graduate and professional schools is small and the number of possible faculty recruits at other institutions also is small, the national pool of prospective minority