

TAME Boosts Minority Students Into the Engineering Field

By Susan M. Ridgway

Photos by Susan Ridgway

More than 1.2 million of our nation's citizens are practicing engineers — a profession they find both psychologically and monetarily rewarding. And as our society becomes increasingly technological, it needs more, more and more engineers.

Not only is engineering valuable per se, but it has also become the pathway to leadership in the large national and multi-national corporations.

Although Blacks, Chicanos, Puerto Ricans and American Indians comprise approximately 17 percent of the United State's total population, they represent less than 3 percent of our nation's engineers. Thus, paradoxically, our country needs more engineers, but is not taking advantage of the engineering potential of its minority citizens.

Teresa (not her real name) is a student at an Austin high school. Her aptitude in math has been noticed by her math teacher and her counselor, who have suggested she consider an engineering career.

But Teresa is a Mexican-American. Because neither she nor her family know any engineers, she has no clear idea of what a career in engineering would mean to her. And she doesn't think she can afford to go to college anyway.

This, then, is the dilemma — how to break with patterns of the past and bring more minority citizens into engineering. Texas industry and education have united to launch a unique state-wide attack on the problem.

This unusual partnership is called Texas Alliance for Minorities in Engineering (TAME), and its executive director is John S. Robotom of the College of Engineering, The University of Texas at Austin.

The concept of TAME was born in 1975 at a workshop co-sponsored by UT and the Dallas County Community College District, with support from the Sloan Foundation. At that session, more than 100 workshop participants created a state-wide organization to bring together educators, industry representatives, foundations, minority communities, and students.

"The Austin Chapter of TAME was easiest to organize; there was the greatest professional commitment here. The heavy involvement of in-



An Austin TAME directors' meeting at IBM includes (left to right), Doug Lawrence (IBM), Leon Francisco (Texas Instruments), Rob Sanchez (Texas Instruments), Bill Gordon (Motorola), Leonardo de la Garza (Austin Community College), Chris Thomas (Pi Sigma Pi, UT), Porfirio Rios (Tracor), Mauro Reyna (AISD), Jim Archer (Austin Community College), Exalton Delco (Huston-Tillotson College), and Mike Christopher (Pi Sigma Pi, UT).

dustry is making TAME work," Robotom said.

Currently, Austin's TAME group boasts participants from all high schools, the AISD administration, Austin Community College, Huston-Tillotson College, the UT College of Engineering, UT minority engineering students, local engineering consultants, the City of Austin, and, importantly, four major Austin industries — IBM, Motorola, Texas Instruments and Tracor. Westinghouse and Alcoa also have been active with TAME.

All nine Austin high schools participate in the TAME program. IBM, Motorola, Texas Instruments and Tracor each act as sponsor for at least two high schools. Each high school has set up an action committee comprised of a representative from the sponsoring industry, math and science teachers, guidance counselor and principal or assistant principal.

Identifying the minority students with engineering potential is the first objective of the TAME action committee. According to Rob Sanchez, Austin TAME secretary and a marketing manager at Texas Instruments, approximately 300 Austin students have been identified.

Minority students with engineering potential are recognized in a variety of ways — good grades in math and science, teacher recommendations,

or if the student himself expresses special interest.

Even before school began in fall, 1977, the sponsoring companies hosted eight students during the summer. Instead of spending his or her time in the usual non-technical type of summer job, each student "shadowed" an engineer at work and gained valuable exposure to the profession.

According to Mauro Reyna, assistant superintendent of the AISD and vice chairman of Austin TAME, the program will be expanded this summer, which "shows that all our time and energy is paying off."

Doug Lawrence, personnel manager at IBM, is chairman of the Austin division of TAME. And he points out that Gus Garcia, then school board chairman, was one of the original organizers. Garcia was instrumental in establishing TAME with the AISD.

In order to inform more people about engineering opportunities, TAME recently has completed a videotape showing engineering activities and actual minority engineering students and graduates at work. The tape will be available statewide for use in schools and for parent groups. TAME wants to reach not only the minority student, but also his family.

During the '77-'78 school year, the

TAME action committees have been working with high schools, tailoring activities especially for their own students.

The activities can include "career days," special-interest clubs, special counseling and industry tours. Austin TAME members hope to expand the program to junior high schools.

In addition to identifying and encouraging high school students, Robottom provides information on scholarship funds to interested students. "Money is just not a problem" for the qualified minority student, Robottom said. The problem is getting this information to the high school student.

period — especially minority engineers."

TAME, though funded, does not depend on money for its effectiveness — it depends on people. Many people in Austin have been working toward this effectiveness, including those in the AISD, at UT and ACC and in Austin industry.

Adult participants are happy with the way the Austin TAME program is shaping up, but what about the minority high school students that TAME wants to reach? Are they being reached?

We talked to two Reagan High School students who had participated recently in a TAME-organized tour of Tracor. The students were Tony Maldonado, a junior and Gloria Crayton, a sophomore.

Although neither student has definitely decided on an engineering career, both said that the TAME program had helped to inform them about engineering. Tony admitted he had been worried about the financial part of going to college. On the Tracor tour, however, he found that engineering scholarship funds were available.

Both Gloria and Tony have an aptitude for math. Tony said that before touring Tracor, "I didn't think I could be an engineer. Now that I have seen all this, I think I have a better chance."

"Before seeing Tracor," said Gloria, "not many people knew what engineering really was. Then we were allowed to go and see what they did; people seemed to really like their jobs and be happy. It made me feel I wanted to work there, too."

TAME is an Austin partnership that is working to help solve two national problems — tapping the unused but valuable resource of minority engineering potential and opening up engineering and leadership positions to minority citizens.

And if the TAME enthusiasm and determination plus favorable student response are any indication, it's a partnership that is headed for success. □



Austin TAME officers are (left to right) Vice Chairman Mauro Reyna (Assistant Superintendent, AISD); Secretary Rob Sanchez (Manager of Network and Financial Marketing, Texas Instruments); and Chairman Doug Lawrence (Personnel Manager, IBM). Not pictured is Treasurer Jack Robottom (Director of Equal Opportunities in Engineering, UT).

The second major goal of Austin TAME is to ease the transition of the minority student to college, cutting the minority drop-out rate. Austin is lucky to have Austin Community College helping in this transition stage.

If a student wants to enter UT's College of Engineering, but didn't realize that soon enough to properly prepare in high school, ACC offers courses to fill in the gaps. The student then can go from ACC into UT engineering.

Jack Robottom, in addition to being the statewide executive director of TAME, is treasurer of the Austin chapter and the director of the Equal Opportunities in Engineering Program at UT. His office works with several aspects of the problem.

Once the minority student does enter the UT engineering program, he may need special counseling and tutoring. The EOE office helps here, as does Pi Sigma Pi, the minority engineering club. Pi was established at UT before TAME was formed, but the club shares the same concerns and now works with TAME. In fact, Pi member Chris Thomas, a senior electrical engineering student, provides formal liaison by serving on the TAME board of directors.

What part does TAME then need to play in helping the minority engineering graduate find a job?

None, according to Robottom and IBM's Lawrence. Lawrence says the graduate is "sought after, a very hot commodity. Engineers are in demand,