

Arthur A. Hiatt

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Professor of Mathematics

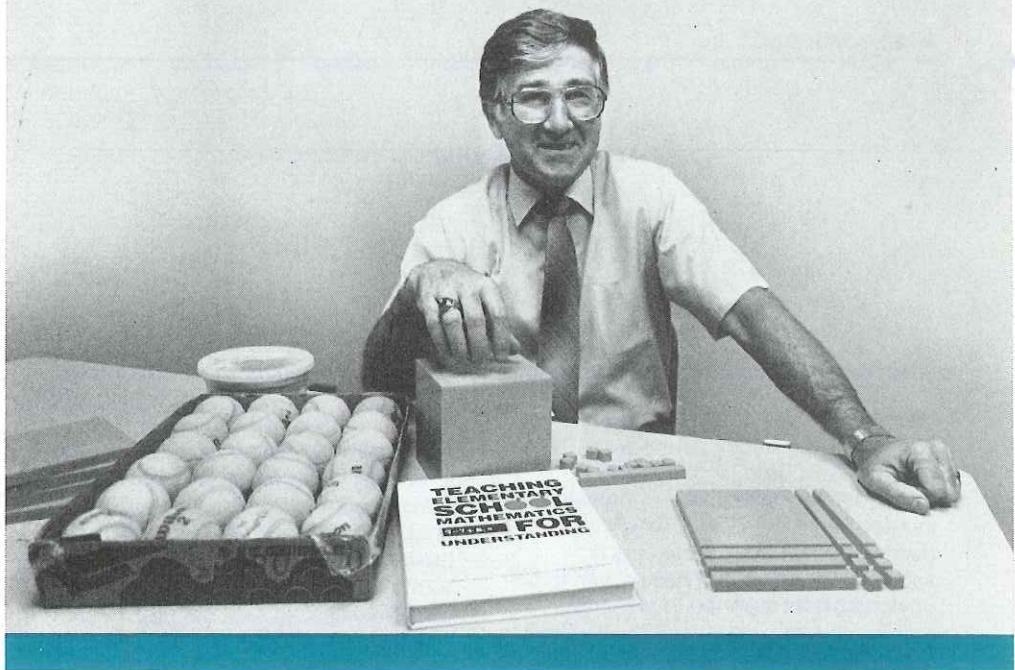
Despite his own great love for mathematics, Dr. Arthur Hiatt is well aware many students do not share his affection. He attempts to convert his students by demonstrating the practical application of mathematics to daily life. "I got my doctorate because I was concerned about the poor status of mathematics education and wondered why so many students have difficulty learning mathematics, and why so many students don't like mathematics," says Hiatt, whose Ph.D. dissertation was *Assessing Mathematical Thinking Abilities of Sixth, Ninth, and Twelfth Grade Students*. "I felt that something as fundamental as mathematics, which has applications to everything you do, should inspire a little more excitement."

Hiatt's entry into the field of mathematics was not an easy one. One of 15 brothers and sisters from a very poor family, he started college as an engineering major because he thought engineers made a great deal of money. During his last two years of high school, Hiatt worked 23 hours each week and lived with several different brothers and sisters, staying in five different places in his senior year. Although Hiatt, an outstanding football defensive halfback and track runner in high school, had athletic scholarship offers, he entered San Jose State University determined to become an engineer.

Hiatt married at age 18 and had his first child in his junior year of college. He decided to change his major to mathematics when he felt an engineering degree would take too long, and he needed to support his wife and child. "I have never been unhappy with that decision," He says. "I love teaching mathematics." Hiatt managed to graduate in less than four years, and his track career earned him All America honors. He was named on four different world track and field lists and once ran the fifth fastest time in the world for 220 yards. All this was accomplished while he worked at least 20 hours each week. He then went on to earn his master's degree from San Jose State University and his Ph.D. from the University of California at Berkeley.

Nowadays, as CSUF's coordinator of Secondary Mathematics, Hiatt works with teachers on methods to motivate students to learn mathematics. His efforts to get teachers to make mathematics more interesting to students have been widely recognized. He was awarded a \$20,000 National Institute of Education Grant in 1978 to study the effects of handheld calculators in a predominantly black high school. A Chancellor's Grant of \$22,000 followed, to develop a general mathematics class for liberal arts students at CSU, Fresno involving calculators and computers. In March 1987, Hiatt was selected as a consultant for the largest National Science Foundation Grant ever awarded for calculator research — \$812,000.

Hiatt has been a full-time high school teacher in Santa Clara, a director of curriculum and research, and a consultant



on two national mathematical experiments, enabling him to provide his students with insights on what makes mathematics exciting. "Essentially, I've spent most of my life trying to help teachers on how to present mathematics to students in a way that would be more interesting," Hiatt says. He also has given numerous workshops for kindergarten through 12th grade teachers throughout the U.S. and has written or co-written several articles and books on mathematics, including *Teaching Elementary School Mathematics for Understanding*, now in its fifth edition.

How difficult is mathematics for university students?

We find students with three years of college-preparatory high school mathematics who can't pass the Entry Level Mathematics (E.L.M.) test that the state now gives at all our campuses. The test covers only ninth grade algebra and some geometry. Some logical reasons for their not being able to pass the E.L.M. are grade inflation, cheating, and lack of rigor and enforcement of homework assignments. Most school districts have a rule that makes it permissible for students to take any mathematics course provided they have a *D* or better. Most students lack study skills. Students who enter with less than adequate mathematics training find our remedial courses very difficult because of the necessary pace. [180 hours in high school versus 45 hours in college.] This pace contributes to the mathematics anxiety of some students.