

# Maverick publisher battles math mafia

by Susan Welsh

A freshman college physics textbook released by Saxon Publishers, Inc. in 1993, *Physics: An Incremental Approach* (teacher's edition), has quite an unusual introduction: a 30-page "Open Letter to President Clinton" on the reasons for the failure of American math education. Author and publisher John Saxon, Jr., a retired Air Force lieutenant colonel, angrily takes to task the National Council of Teachers of Mathematics (NCTM) and the rest of the mathematics establishment, which are now promoting national *Curriculum and Evaluation Standards for School Mathematics*. These are the same people who brought us the "new math" disaster in the 1960s. "Only in American mathematics education do people with a track record of abject failure arrogate the title of 'expert,'" Saxon writes. "We have implemented their recommendations for years and years without requiring proof of efficacy first. I say that the time has come to question the experts, especially since they have asked the country to join them in another untested and unquestionable shift in pedagogy that I believe will cause great harm to America and should be called the 'new new math.'"

Saxon's company, based in Norman, Oklahoma, did \$11 million in business last year; it has published 13 mathematics books for grades K-12, and has now branched out into physics. Saxon advocates a "no-frills national mathematics program that concentrates on precalculus fundamentals." His method, which opponents charge is "drill and grill," would have seemed perfectly normal during the 1950s. It is based on the simple proposition that topics should be introduced in increments, rather than all at once, and should be practiced in every lesson until the concepts underlying the problems are mastered. It's not a question of "drill," Saxon argues, but simply of practice: "Jack Nicklaus practices. Joe Montana practices. Van Cliburn practices. Our math educators contend that mathematics can be learned without the long-term practices of the parts that permits the whole to be comprehended."

According to Saxon's figures, hundreds of schools that have used his books have 1) increased the number of seniors enrolled in academic mathematics by 50-100%; 2) increased college board scores in mathematics by 20-50%; 3) doubled calculus enrollment. One independent study reported in the *Phi Delta Kappan* (June 1984) found that students in remedial algebra at the University of Arkansas did 24% better on final examinations using Saxon's textbooks, compared to a

control group.

Saxon writes that he is trying to give away \$10 million worth of mathematics books to schools to prove the superiority of his method, but finds that many school and government officials won't accept the offer, deferring to the views of the "math experts."

## 'Politically correct' criteria

How do schools choose which textbooks to use? One would assume that a textbook that gets good results would be chosen over one that doesn't, and that publishers would be required to submit their books to various tests to see which are successful. But in fact, in most states, Saxon reports, *no* such tests are required. What publishers must do, instead, is produce books that are "politically correct," visually attractive (according to Madison Avenue standards, and regardless of whether the graphic elements do anything to promote learning), and, in the case of mathematics, fit the specifications of the NCTM's *Standards*. This includes such things as use of calculators, computers, "manipulatives," "cooperative learning," and "pictures for the visual learners."

In his Open Letter to the President, Saxon gives a state-by-state account of his efforts to get his textbooks adopted. Twenty-two states have textbook adoptions at the state level, led by Texas and California, which control a large portion of the market and set a precedent for the rest of the country. Rather than assess the effectiveness of the textbooks submitted to them for review, the states specify the criteria which publishers must adhere to. The textbook adoption process in Virginia, for example, uses a checklist for evaluators to judge mathematics textbooks. A publisher can get 10 points (out of 100) for "intent," and the checklist includes such gems as, "The philosophy and/or purpose of the textbook is in keeping with current thinking and learning theories about mathematics (yes or no). . . . The text emphasizes the importance of learning to reason mathematically (yes or no). . . . The text provides opportunities for students to explore, investigate and discover mathematical ideas (yes or no)." Saxon's books received the lowest rating of any publisher evaluated in Virginia, and the positive results they achieve were never even considered.

Saxon is sharply critical of the schools of education for their role in creating the education crisis. He reports that he has traveled in all 50 states trying to interest superintendents and principals in his books, and when he tells them that it is possible to sharply improve their students' mathematics education, "I do not get the responses I thought I would. Their expressions do not change except for the ones whose eyes suddenly become expressionless." Why? They themselves have never taken these courses in high school or college. To get their degrees in education, they did not have to study these subjects. "They seem to rationalize that they knew from the outset they would never need to know calculus, physics, chemistry, or a foreign language."