An Editorial

Unskilled and Unprepared

By John T. Correll, EDITOR IN CHIEF

"THE education system has failed the nation. It has not produced enough well-educated, technically qualified graduates who can enter the work force and become productive members of society. This is true at every tier from entry-level technician to research scientist. And the future doesn't look any better."

That is the somber conclusion of "America's Next Crisis: The Shortfall in Technical Manpower," a report published in September by AFA's Aerospace Education Foundation. "The United States," it says, "spends more than any other nation for education while simultaneously ranking at the bottom of the industrialized world in terms of educational achievement."

• The National Science Foundation predicts that the US will be short more than 700,000 scientists and engineers between 1989 and 2010. The number of engineering graduates will decline by forty percent—and the demand will increase by seventy percent.

• As the US labor pool shrinks over the next ten years, it will become increasingly difficult to find skilled replacements for older workers as they retire. The Commerce Department says that one company in three is already forced to provide basic or remedial instruction for new employees. "America's Next Crisis" recounts the case of a worker in a major firm who mismeasured yards of sheet steel and wasted nearly $700 worth of material in one morning. He was unable to read a ruler.

"We have diverted our schools from places of learning to places of play at a time when our international competitors have been pursuing academic excellence in their public schools," says Texas entrepreneur H. Ross Perot.

Indeed, American high school students take far fewer science and math courses than do their counterparts abroad. The trend continues in their selection of courses in college. Students and faculty in US graduate engineering schools are predominately foreign or foreign-born.

• More than a fourth of American twelve-year-olds cannot handle elementary-school arithmetic. Only six percent of the seventeen-year-olds can handle algebra or multistep math problems. The *average* Japanese high school student consistently does better at math than the top five percent of American students do. In a sixteen-nation comparison of science achievement, US ninth graders were next to last.

As the study makes clear, though, it is not a matter of US students emphasizing grammar instead of chemistry and long division.

• Twenty-seven million Americans over the age of seventeen are functionally illiterate. Another 45,000,000 are marginally literate, "usually unable to function productively in a work environment," according to the Business Council for Effective Literacy. Projecting from current data, the US Census Bureau says that seventy percent of the US population will be functionally illiterate by the year 2000. By an Aerospace Industries Association estimate, companies will be hiring 1,000,000 new people a year who cannot read, write, or count.

Scholastic Aptitude Test scores in this country improved somewhat in the 1980s, but, says Secretary of Education Lauro Cavazos, "the academic achievement of American students remains far below its level in the early 1960s and well behind the performance of students in most industrialized countries."

Society pays a huge penalty for this sorry mess. The Commerce Department says that school dropouts cost the nation more than $240 billion annually in lost taxes and wages and increased public assistance. Business spends $30 billion a year to train and retrain employees. The waste of human potential is incalculable. We can only guess at the price tag for lost productivity.

There are specific implications for defense. Seventy-two percent of the Air Force's enlisted career specialties require a technical background. Wish the recruiters luck. Officers of the future will be difficult to find, too. Only two percent of US high school graduates in 1988 had taken courses needed to qualify for entry *consideration* by the Air Force Academy.

Last year, the Pentagon said that massive deficiencies in US education and training were the worst long-term problem facing the defense industrial base. The shortage of skilled workers is a major reason why the industrial base today has virtually no capacity for surge production in wartime.

The United States is losing its edge in technology. It is already dependent on foreign sources for some critical components and defense systems. In 1986, the US balance of trade in high-technology goods was, for the first time, negative. The failure of the education system, says "America's Next Crisis," is among the leading reasons for our decline.

There are exceptions to the pattern. The study cites examples of partnerships between schools and industries that have achieved impressive results. Most of these, however, "are successful for a simple reason: They bypass the system because it does not deliver," the study finds.

The White House, Congress, industry, and H. Ross Perot cannot solve this one for us. The crisis is nationwide, but the real problem—and the solution—is in our local schools and communities. If Americans get worried enough, angry enough, and determined enough, the answers are within their reach. ■