The final presentation on the seminar's first day addressed this last issue. Albert Shanker, president of the American Federation of Teachers, AFL-CIO, described the crisis of the U.S. educational system and proposed some reforms to resolve it.

Despite a decade of national discussion and debate, said Shanker, "we continue to have a very serious problem." American society spends more time and money on educational testing than any other industrialized country, said Shanker, and yet these tests don't tell us much. The exception to that is the congressionally funded National Assessment of Educational Progress (NAEP), and it reveals in terms the public can understand just how poorly our students are doing. For example, in a national sample of in-school 17 years olds, only 3 to 6 percent score in the top category for writing, reading, or math; this top category roughly corresponds to the ability to handle college-level work. In West Germany, by contrast, about 28 percent of students pass the far more rigorous national exams necessary to gain college admission. But 55% of our high school graduates go to postsecondary school, and if NAEP is any guide, it seems that the majority of them are unprepared to handle real college-level work.

What is the source of the education crisis? According to Shanker, our traditional model of education is not suited to

the realities of U.S. society or the economy or even to the way students learn. "American schools are essentially based on a factory model," said Shanker, "in which students are treated as raw materials to be mass produced into standardized finished products." This encourages neither the skills nor the attitudes increasingly necessary in the workplace.

Despite the clear inadequacies of the traditional approach, society appears unable to imagine any alternatives. "We all have one idea of school in our heads," said Shanker. "And, remember, the people running things are the ones who were successful in the old system!" As a result, they keep on trying to get the old system to work better rather than to imagine how it can be restructured.

An example, argued Shanker, is the popularity of proposals to increase the amount of time that children are in school by lengthening the school year. Shanker described the reaction of Jack Bowsher, former director of education at IBM, to such proposals. Bowsher said that if IBM were producing results comparable to those of the schools -- that is, if 25 percent of its computers were falling off the assembly line before they reached the end and if 90 percent of the completed ones didn't work 80 percent of the time -- the last thing the company would do would be to run that same old assembly line longer. Instead, it would rethink the entire production process.

Shanker suggested that even if schools are thought of as factories, it is students who should be conceived of as workers, not raw materials, and teachers as the managers of a factory or business. Seen from this perspective, some of the absurdities of our current education system become clear. What kind of business would insist that its workers never communicate with each other? What kind of plant would shift workers every 45 minutes to a different supervisor, task, and work group?

If we take seriously this idea of students as workers who need to be creatively managed or coached by teachers, said Shanker, this immediately leads to some common-sense goals that could guide school reform. For example, finding ways that wouldn't require chilren to sit still and keep quiet all day and enabling them to learn at their own pace and in different ways -- impossible in the present structure. Teachers should also have far more flexibility to structure schooling. And in return for a more flexible environment, both students and school staff should take more responsibility for educational outcomes.

There are few models of schools that incorporate such principles, said Shanker, but there are some. For example, there are a number of schools in West Germany that use a model of a "self-managing organization based on cooperative instruction in groups." A team of seven teachers is responsible for roughly 130 children. The teachers decide

amongst themselves how to break up the school day and assign themselves to maximize their own strengths and how to group the children according to their stages of development and learning. And this same set of teachers remains with the children for 5 or 6 years. "It's an example of turning a bureaucratic situation into a moral community," said Shanker.

In another example, from Australia, the school program is organized into "modules." Children can choose among different modules depending on how interested they are in the subjects. But every module contains the same categories of activities -- reading, writing, and discussion -- to ensure that everyone acquires the same core skills.

Before a critical mass of such alternatives can be created in this country, said Shanker, we need to create incentives that would allow schools or schools within schools to differentiate themselves from each other. Schools should not be run according to the principles of a command economy but according to the principles of self-renewal, which mean substantial deregulation and de-bureaucratization, giving schools maximum autonomy to crate their own programs, incentives for getting outstanding results and consequences for persistent failure.